



EFA Region 5 Records Ctr.



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March 17, 1997

Ms. Esperanza Anderson  
Environmental Enforcement Section  
United States Department of Justice  
Post Office Box 7611, Ben Franklin Station  
Washington, D.C. 20044

Re: United States of America v. Sheller-Globe Corporation  
Case No. 1:96-CV-927

Enclosed please find the following concerning the above referenced matter:

- ☐ Affidavit
- ☐ Affirmative Defenses
- ☐ Answer
- ☒ Consent Decree (cover sheet and page 80 with judges signature- filed 3/12/97)
- ☐ Final Decree
- ☐ Joint Status Report
- ☐ Judgment and Order dated
- ☐ Letter dated
- ☐ Notice of Hearing
- ☐ Order Closing Case
- ☐ Petition
- ☐ Scheduling Order

W. FRANCESCA FERGUSON  
Assistant United States Attorney

DEPARTMENT OF JUSTICE

MAR 21

FINAL

UNITED STATES OF AMERICA

IN THE UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF MICHIGAN, SOUTHERN DIVISION

WESTERN DISTRICT OF MICHIGAN, SOUTHERN DIVISION

UNITED STATES OF AMERICA,

Plaintiff,

v.

SHELLER-GLOBE CORPORATION,  
NATIONAL-STANDARD COMPANY,  
PPG INDUSTRIES, INC.,  
PICKENS PLATING, INC.,  
VALLEY INDUSTRIES CO.,  
RHI HOLDINGS, INC.,  
SUNDSTRAND CORPORATION,  
a/k/a RUBY MANUFACTURING,  
SHAKESPEARE COMPANY,  
MOEN INCORPORATED,  
f/k/a STANADYNE, INC.,  
RHONE-POULENC., INC.,  
ENTHONE-OMI, INC.,  
UNION TANK CAR COMPANY,  
DAYTON WALTHER,  
UNISYS CORPORATION,  
SEALED POWER,  
KEWAUNEE SCIENTIFIC CORPORATION,  
WARSAW PLATING WORKS, INC.,  
WESTINGHOUSE ELECTRIC CORPORATION,  
WHIRLPOOL CORPORATION,  
XTEK INC.,  
FKI INDUSTRIES, INC.,  
BRIDGESTONE/FIRESTONE, INC.,  
DOVER CORPORATION,  
a/k/a GARWOOD,  
GENERAL ELECTRIC COMPANY,  
GILBERT PLATING &  
BUMPER EXCHANGE, INC.,  
LEAR PLASTICS CORPORATION,  
HARMAN AUTOMOTIVE, INC.,  
HASTINGS MANUFACTURING COMPANY,  
TEXTRON INC.,

Case No.

96-CV-927

Hon.

United States District Judge

Gordon J. Quist  
U.S. District Judge

-6-

- INDIANA STEEL & WIRE,
- JOHNSON CONTROLS, INC.,
- KTS INDUSTRIES, INC.,
- KAWNEER COMPANY, INC.,
- PADREN, ... *Lansing Heat Treating*
- LAWRENCE INDUSTRIES,
- ELF ATOCHEM NORTH AMERICA, INC., ... *M & T Chemicals*
- MICRO METAL FINISHING, INC.,
- MOTOR WHEEL CORPORATION,
- AE GOETZE INC., ... *Muskegon Piston Ring*
- CITY OF KALAMAZOO,
- AMERACE CORPORATION,
- PLYMOUTH TUBE COMPANY, ... *American Tubing Co.*
- ERICSSON, INC., ... *Araconda Wire and Cable*
- ANDERSON SAFEWAY CORPORATION,
- a/k/a THE ANDERSON GROUP,
- ANODIZED SPECIALISTS, INC.,
- ALLIED SIGNAL INC., ... *Bendix Corp.*
- BRUNSWICK CORPORATION,
- CHRYSLER CORPORATION,
- CITY OF BATTLE CREEK,
- CLARK EQUIPMENT COMPANY,
- CONSUMERS POWER COMPANY,
- CORNING INCORPORATED,
- COSCO HOUSEHOLD PRODUCTS,
- DANA CORPORATION,
- GENERAL MOTORS CORPORATION,
- WICKES MANUFACTURING COMPANY,
- DU WEL PRODUCTS, INC.,
- ESSEX WIRE,
- V. W. KAISER ENGINEERING, INC.,
- HOWARD PLATING INDUSTRIES, INC.,
- and
- MAGNAVOX,

Defendants.

---

*Mousauto  
Contractors United*

CONSENT DECREE

UNITED STATES OF AMERICA

IN THE UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF MICHIGAN, SOUTHERN DIVISION

-----

UNITED STATES OF AMERICA,

Plaintiff,

v.

- SHELLER-GLOBE CORPORATION,
- NATIONAL-STANDARD COMPANY,
- PPG INDUSTRIES, INC.,
- PICKENS PLATING, INC.,
- VALLEY INDUSTRIES CO., *Quincy Products*
- RHI HOLDINGS, INC., *Rex Chain Belt*
- SUNDSTRAND CORPORATION,  
a/k/a RUBY MANUFACTURING,
- SHAKESPEARE COMPANY,
- MOEN INCORPORATED,  
f/k/a STANADYNE, INC.,
- RHONE-POULENC, INC., *Stauffer Chemical*
- ENTHONE-OMI, INC., *Udylite*
- UNION TANK CAR COMPANY,  
DAYTON WALTHER,
- UNISYS CORPORATION, *Vickers Corp*
- SEALED POWER,
- KEWAUNEE SCIENTIFIC CORPORATION,
- WARSAW PLATING WORKS, INC.,
- WESTINGHOUSE ELECTRIC CORPORATION,
- WHIRLPOOL CORPORATION,
- XTEK INC.,
- FKI INDUSTRIES, INC., *Faultless Carter*
- BRIDGESTONE/FIRESTONE, INC.,
- DOVER CORPORATION,  
a/k/a GARWOOD.
- GENERAL ELECTRIC COMPANY,
- GILBERT PLATING &  
BUMPER EXCHANGE, INC.,
- LEAR PLASTICS CORPORATION, *Hood Corp*
- HARMAN AUTOMOTIVE, INC.,
- HASTINGS MANUFACTURING COMPANY,
- TEXTRON INC., *Hommel Division*

Case No. 196-CV-927

Hon.

United States District Judge

**Gordon J. Quist**  
**U.S. District Judge**

-6-

SIGNATORIES TO THE AUTO ION RD/RA CONSENT DECREE  
FOR SECOND OPERABLE UNIT

- Amerace Corporation
- American Tubing Company (Plymouth Tube Company)
- ✓ Anaconda Wire & Cable Co. (Edison)
- Anderson Safeway Corp
- Anodized Specialists, Inc.
- Bendix Corporation (Allied Signal, Inc.)
- Brunswick Corporation
- Chrysler Corporation
- City of Battle Creek
- City of Kalamazoo
- Clark Equipment Company (Ingersoll-Rand Company)
- Consumer Power Company
- ✓ Contractors United, Inc.
- Corning Glass Works (Corning, Inc.)
- Cosco Household Products
- Dana Corporation (Weatherhead Division)
- Du-Wel Products, Inc.
- Essex Wire (United Technologies Corporation)
- Faultless Caster, Inc. (FKI Industries, Inc.)
- Firestone (Bridgestone)
- Garwood Industries (Dover Corporation)
- General Electric Company
- General Motors Company
- Gilbert Plating and Bumper Exchange, Inc.
- Haas Corporation (Lear Plastics)
- Harman Automotive (Jervis; Harvard Industries)
- Hastings Manufacturing Company
- Homelite Division (Textron)
- Howard Plating Industries, Inc.
- Indiana Steel & Wire
- Johnson Controls
- KTS Industries, Inc.
- Kawneer Company
- Kewaunee Scientific Corporation
- ✓ Lawrence Industries
- ✓ Lansing Heat Treating Co. (Padren)
- M&T Chemical, Inc. (Elf Atochem North America, Inc.)
- Magnavox
- Micro Mechanical Finishing (Xtek)

This is probably the  
easiest list to work  
with. Just add  
"Dayton Walther"  
as one more party.  
(TOTAL of 64 parties)

Monsanto Corporation  
 Motor Wheel Corporation (Goodyear)  
 Muskegon Piston Ring (F.E. Grefze, Inc.)  
 National-Standard Company  
 PPG Industries, Inc.  
 Pickens Plating Inc.  
 Quincy Products, Inc. (Valley Industries, Inc.)  
 Rex Chain Belt, Inc. (RHI Holdings, Inc.; Fairchild)  
 Rudy Manufacturing (Sunstrand Corporation)  
 Sealed Power Corporation (SPX Corporation)  
 Shakespeare Company  
 Sheller Globe Corporation (United Technologies Automotive Systems, Inc.)  
 Stanadyne, Inc. (Stanscrew, Moen, Inc.)  
 Stauffer Chemical (Stauffer Management Company, Rhone-Poulenc, Inc.)  
 Udylite Corporation (Ethone-OMI, Inc.)  
 Union Tank Car Company (The Marmon Group, Inc.)  
 V.W. Kaiser Engineering  
 Varsity Kelsey-Hayes (H.B. Sherman Manufacturing)  
 Vickers Corporation (Unisys Corporation)  
 Warsaw Plating Works, Inc.  
 Westinghouse Electric Corporation  
 Whirlpool Corporation  
 Wickes Manufacturing  
 Xtek Inc.

Ruby

Three on this list that are NOT on the other:

- ① Monsanto
- ② Contractors United
- ③ Varsity Kelsey-Hayes  
(H.B. Sherman Mfg.)

$$63 + 1 = 64$$

One on the other list that is NOT on this one:

$$\text{Dayton Walther} \\ 61 + 3 = 64$$

(+ Dayton Walther)  
→ from other list

FINAL

UNITED STATES OF AMERICA

IN THE UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF MICHIGAN, SOUTHERN DIVISION

WESTERN DISTRICT OF MICHIGAN, SOUTHERN DIVISION

UNITED STATES OF AMERICA,

Plaintiff,

Case No. 96-CV-927

v.

Hon.

United States District Judge

Gordon J. Quist  
U.S. District Judge

SHELLER-GLOBE CORPORATION, (United Technologies)  
NATIONAL-STANDARD COMPANY,  
PPG INDUSTRIES, INC.,  
PICKENS PLATING, INC.,  
VALLEY INDUSTRIES CO., (Quincy Products)  
RHI HOLDINGS, INC., (Rex Chain Belt; Furchild)  
SUNDSTRAND CORPORATION;  
a/k/a RUBY MANUFACTURING,  
SHAKESPEARE COMPANY  
MOEN INCORPORATED, (Stanscrew)  
f/k/a STANADYNE, INC.,  
RHONE-POULENC, INC., (Stauffer Chemical; Stauffer Mgmt Co.)  
ENTHONE-OMI, INC., (Udylite Corp)  
UNION TANK CAR COMPANY, (The Marmion Group)  
DAYTON WALTHER,  
UNISYS CORPORATION, (Vickers Corp.)  
SEALED POWER, (SPX Corp.)  
KEWAUNEE SCIENTIFIC CORPORATION,  
WARSAW PLATING WORKS, INC.,  
WESTINGHOUSE ELECTRIC CORPORATION,  
WHIRLPOOL CORPORATION,  
XTEK INC., (Micro Mechanical Finishing)  
FKI INDUSTRIES, INC., (Faultless Caster, Inc.)  
BRIDGESTONE/FIRESTONE, INC.,  
DOVER CORPORATION,  
a/k/a GARWOOD,  
GENERAL ELECTRIC COMPANY,  
GILBERT PLATING &  
BUMPER EXCHANGE, INC.,  
LEAR PLASTICS CORPORATION, (Haas Corp.)  
HARMAN AUTOMOTIVE, INC., (Jervis; Harvard Industries)  
HASTINGS MANUFACTURING COMPANY,  
TEXTRON INC., (Amonelite Division)

-6-

- INDIANA STEEL & WIRE,
- JOHNSON CONTROLS, INC.,
- KTS INDUSTRIES, INC.,
- KAWNEER COMPANY, INC.,
- PADREN, (Lansing Heat Treating)
- LAWRENCE INDUSTRIES,
- ELF ATOCHEM NORTH AMERICA, INC., ... (M & T Chemical Inc.)
- MICRO METAL FINISHING, INC., (Micro Mechanical Finishing)
- MOTOR WHEEL CORPORATION, (Goodyear)
- AE GOETZE INC., ... (Muskegon Piston Ring)
- CITY OF KALAMAZOO,
- AMERACE CORPORATION,
- PLYMOUTH TUBE COMPANY, ... (American Tubing Co.)
- ERICSSON, INC., ... (Anaconda Wire and Cable)
- ANDERSON SAFEWAY CORPORATION,
- a/k/a THE ANDERSON GROUP,
- ANODIZED SPECIALISTS, INC.,
- ALLIED SIGNAL INC., ... (Bendix Corp)
- BRUNSWICK CORPORATION,
- CHRYSLER CORPORATION,
- CITY OF BATTLE CREEK,
- CLARK EQUIPMENT COMPANY, (Lingensoll-Rand Co.)
- CONSUMERS POWER COMPANY,
- CORNING INCORPORATED, (Corning Glass Works)
- COSCO HOUSEHOLD PRODUCTS,
- DANA CORPORATION, (Weatherhead Division)
- GENERAL MOTORS CORPORATION,
- WICKES MANUFACTURING COMPANY,
- DU WEL PRODUCTS, INC.,
- ESSEX WIRE, (United Technologies Corp)
- V. W. KAISER ENGINEERING, INC.,
- HOWARD PLATING INDUSTRIES, INC.,
- and
- MAGNAVOX,

Defendants.

Not on this  
list;  
Signature  
page for  
Monsanto  
and

Monsanto

Contractors United

Verity Kelsey-Hayes

(H.B. Sherman Manufacturing)

CONSENT DECREE

Contractors United were located; signature page for  
Verity Kelsey-Hayes (H.B. Sherman) was NOT located.

**AUTO ION CERCLA RD/RA CONSENT DECREE**

## TABLE OF CONTENTS

<b>AUTO ION SUPERFUND SITE (Operable Unit 2) RD/RA CONSENT DECREE</b>		
<b>I.</b>	<b><u>BACKGROUND</u></b>	<b>1</b>
<b>II.</b>	<b><u>JURISDICTION</u></b>	<b>5</b>
<b>III.</b>	<b><u>PARTIES BOUND</u></b>	<b>5</b>
<b>IV.</b>	<b><u>DEFINITIONS</u></b>	<b>6</b>
<b>V.</b>	<b><u>GENERAL PROVISIONS</u></b>	<b>12</b>
<b>VI.</b>	<b><u>PERFORMANCE OF THE WORK BY SETTLING DEFENDANTS</u></b>	<b>15</b>
<b>VII.</b>	<b><u>REMEDY REVIEW</u></b>	<b>23</b>
<b>VIII.</b>	<b><u>QUALITY ASSURANCE, SAMPLING, AND DATA ANALYSIS</u></b>	<b>25</b>
<b>IX.</b>	<b><u>ACCESS AND INSTITUTIONAL CONTROLS</u></b>	<b>27</b>
<b>X.</b>	<b><u>REPORTING REQUIREMENTS</u></b>	<b>29</b>
<b>XI.</b>	<b><u>EPA APPROVAL OF PLANS AND OTHER SUBMISSIONS</u></b>	<b>32</b>
<b>XII.</b>	<b><u>PROJECT COORDINATORS</u></b>	<b>35</b>
<b>XIII.</b>	<b><u>ASSURANCE OF ABILITY TO COMPLETE WORK</u></b>	<b>36</b>
<b>XIV.</b>	<b><u>CERTIFICATION OF COMPLETION</u></b>	<b>38</b>
<b>XV.</b>	<b><u>EMERGENCY RESPONSE</u></b>	<b>42</b>
<b>XVI.</b>	<b><u>REIMBURSEMENT OF RESPONSE COSTS</u></b>	<b>43</b>
<b>XVII.</b>	<b><u>INDEMNIFICATION AND INSURANCE</u></b>	<b>47</b>
<b>XVIII.</b>	<b><u>FORCE MAJEURE</u></b>	<b>50</b>
<b>XIX.</b>	<b><u>DISPUTE RESOLUTION</u></b>	<b>53</b>
<b>XX.</b>	<b><u>STIPULATED PENALTIES</u></b>	<b>58</b>
<b>XXI.</b>	<b><u>COVENANTS NOT TO SUE BY PLAINTIFF</u></b>	<b>63</b>
<b>XXII.</b>	<b><u>COVENANTS BY SETTLING DEFENDANTS</u></b>	<b>67</b>

XXIII.	<u>EFFECT OF SETTLEMENT; CONTRIBUTION PROTECTION</u> . . .	70
XXIV.	<u>ACCESS TO INFORMATION</u> . . . . .	71
XXV.	<u>RETENTION OF RECORDS</u> . . . . .	73
XXVI.	<u>NOTICES AND SUBMISSIONS</u> . . . . .	75
XXVII.	<u>EFFECTIVE DATE</u> . . . . .	77
XXVIII.	<u>RETENTION OF JURISDICTION</u> . . . . .	77
XXIX.	<u>APPENDICES</u> . . . . .	77
XXX.	<u>COMMUNITY RELATIONS</u> . . . . .	78
XXXI.	<u>MODIFICATION</u> . . . . .	78
XXXII.	<u>LODGING AND OPPORTUNITY FOR PUBLIC COMMENT</u> . . . .	79
XXXIII.	<u>SIGNATORIES/SERVICE</u> . . . . .	80

IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF MICHIGAN

UNITED STATES OF AMERICA

Plaintiff,

v.

SHELLER-GLOBE CORPORATION,  
et al.,

Defendants.

CIVIL ACTION NO.

CONSENT DECREE

I. BACKGROUND

A. The United States of America ("United States"), on behalf of the Administrator of the United States Environmental Protection Agency ("EPA"), filed a complaint in this matter pursuant to Sections 106 and 107 of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 U.S.C. §§ 9606, 9607.

B. The United States in its complaint seeks, inter alia: (1) reimbursement of costs incurred by EPA and the Department of Justice for response actions at the Auto Ion Superfund Site (Operable Unit 2) in Kalamazoo, Michigan, together with accrued interest; and (2) performance of studies and response work by the defendants at the Site consistent with the National Contingency Plan, 40 C.F.R. Part 300 (as amended) ("NCP").

C. In accordance with the NCP and Section 121(f)(1)(F) of CERCLA, 42 U.S.C. § 9621(f)(1)(F), EPA notified the State of

Michigan (the "State") on September 29, 1995 of negotiations with potentially responsible parties regarding the implementation of the remedial design and remedial action for the Site, and EPA has provided the State with an opportunity to participate in such negotiations and be a party to this Consent Decree.

D. In accordance with Section 122(j)(1) of CERCLA, 42 U.S.C. § 9622(j)(1), EPA notified the Federal natural resource trustee(s) on September 29, 1995 of negotiations with potentially responsible parties regarding the release of hazardous substances that may have resulted in injury to the natural resources under Federal trusteeship and encouraged the trustee(s) to participate in the negotiation of this Consent Decree.

E. The defendants that have entered into this Consent Decree ("Settling Defendants") do not admit any liability to the Plaintiff arising out of the transactions or occurrences alleged in the complaint, nor do they acknowledge that the release or threatened release of hazardous substances at or from the Site constitutes an imminent or substantial endangerment to the public health or welfare or the environment. The participation by any party in this settlement shall not be considered an admission of liability for any purpose.

F. Pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, EPA placed the Site on the National Priorities List, set forth at 40 C.F.R. Part 300, Appendix B, by publication in the Federal Register on September 8, 1983, 48 Fed. Reg. 40674.

G. In 1985, EPA entered into an agreement with some of the

Settling Defendants to conduct a removal action at the Site. The removal action consisted of containerizing and off-site disposing of hazardous materials (i.e., plating wastes) left at the Site. In 1986, the building on the Site was razed by the City of Kalamazoo on behalf of the State, which had become owner of the Site because of non-payment of taxes.

H. In response to a release or a substantial threat of a release of a hazardous substance at or from the Site, the Settling Defendants commenced on June 18, 1986, a Remedial Investigation and Feasibility Study ("RI/FS") for the Site pursuant to 40 C.F.R. § 300.430.

I. The Settling Defendants completed a Remedial Investigation ("RI") Report on June 1, 1989.

J. Further study of the site was organized around Operable Units, with Operable Unit One covering releases to soils and other materials and Operable Unit Two covering releases to groundwater.

K. EPA and the Settling Defendants completed a Feasibility Study ("FS") Report for Operable Unit One on July 19, 1989.

L. In accordance with all applicable CERCLA requirements, EPA issued a Record of Decision (ROD) for Operable Unit One on September 27, 1989, on which the State had a reasonable opportunity to review and comment.

M. On March 25, 1991, Judge Hillman of the United States District Court for the Western District of Michigan entered a Consent Decree between the United States and Settling Defendants

which required the Settling Defendants to implement the remedy for Operable Unit One specified in the September 27, 1989, ROD.

N. EPA and the Settling Defendants completed a FS Report for Operable Unit Two on March 4, 1994.

O. Pursuant to Section 117 of CERCLA, 42 U.S.C. § 9617, EPA published notice of the completion of the FS and of the proposed plan for remedial action on March 28, 1994, in a major local newspaper of general circulation. EPA provided an opportunity for written and oral comments from the public on the proposed plan for remedial action. A copy of the transcript of the public meeting is available to the public as part of the administrative record upon which the Regional Administrator based the selection of the response action.

P. The decision by EPA on the remedial action to be implemented for Operable Unit 2 at the Site is embodied in a final Record of Decision ("ROD"), executed on September 23, 1994, on which the State had a reasonable opportunity to review and comment. The ROD includes a responsiveness summary to the public comments. Notice of the final plan was published in accordance with Section 117(b) of CERCLA.

Q. Based on the information presently available to EPA, EPA believes that the Work will be properly and promptly conducted by the Settling Defendants if conducted in accordance with the requirements of this Consent Decree and its appendices.

R. Solely for the purposes of Section 113(j) of CERCLA, the Remedial Action selected by the ROD and the Work to be performed

by the Settling Defendants shall constitute a response action taken or ordered by the President.

S. The Parties recognize, and the Court by entering this Consent Decree finds, that this Consent Decree has been negotiated by the Parties in good faith and implementation of this Consent Decree will expedite the cleanup of the Site and will avoid prolonged and complicated litigation between the Parties, and that this Consent Decree is fair, reasonable, and in the public interest.

NOW, THEREFORE, it is hereby Ordered, Adjudged, and Decreed:

## II. JURISDICTION

1. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1345, and 42 U.S.C. §§ 9606, 9607, and 9613(b). This Court also has personal jurisdiction over the Settling Defendants. Solely for the purposes of this Consent Decree and the underlying complaint, Settling Defendants waive all objections and defenses that they may have to jurisdiction of the Court or to venue in this District. Settling Defendants shall not challenge the terms of this Consent Decree or this Court's jurisdiction to enter and enforce this Consent Decree.

## III. PARTIES BOUND

2. This Consent Decree applies to and is binding upon the United States and upon Settling Defendants and their heirs, successors and assigns. Any change in ownership or corporate status of a Settling Defendant including, but not limited to, any

transfer of assets or real or personal property, shall in no way alter such Settling Defendant's responsibilities under this Consent Decree.

3. Settling Defendants shall provide a copy of this Consent Decree to each contractor hired to perform the Work (as defined below) required by this Consent Decree and to each person representing any Settling Defendant with respect to the Site or the Work and shall condition all contracts entered into hereunder upon performance of the Work in conformity with the terms of this Consent Decree. Settling Defendants or their contractors shall provide written notice of the Consent Decree to all subcontractors hired to perform any portion of the Work required by this Consent Decree. Settling Defendants shall nonetheless be responsible for ensuring that their contractors and subcontractors perform the Work contemplated herein in accordance with this Consent Decree. With regard to the activities undertaken pursuant to this Consent Decree, each contractor and subcontractor shall be deemed to be in a contractual relationship with the Settling Defendants within the meaning of Section 107(b)(3) of CERCLA, 42 U.S.C. § 9607(b)(3).

#### IV. DEFINITIONS

4. Unless otherwise expressly provided herein, terms used in this Consent Decree which are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Consent Decree or in the

appendices attached hereto and incorporated hereunder, the following definitions shall apply:

"CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601 et seq.

"Consent Decree" shall mean this Decree and all appendices attached hereto (listed in Section XXIX). In the event of conflict between this Decree and any appendix, this Decree shall control.

"Day" shall mean a calendar day unless expressly stated to be a working day. "Working day" shall mean a day other than a Saturday, Sunday, or Federal holiday. In computing any period of time under this Consent Decree, where the last day would fall on a Saturday, Sunday, or Federal holiday, the period shall run until the close of business of the next working day.

"EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

"Future Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the United States incurs in reviewing or developing plans, reports and other items pursuant to this Consent Decree, verifying the Work, or otherwise implementing, overseeing, or enforcing this Consent Decree, including, but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, the costs incurred pursuant to Sections VII, IX ((including, but not limited to, attorneys fees

and any monies paid to secure access and/or to secure future institutional controls (excluding payment to the State for implementation of institutional controls or for access), including the amount of just compensation)), XV, and Paragraph 85 of Section XXI. Future Response Costs shall also include all Interim Response Costs and all Interest on the Past Response Costs that has accrued pursuant to 42 U.S.C. § 9607(a) during the period from September 30, 1995, to the date of entry of this Consent Decree.

"Interim Response Costs" shall mean all costs, including direct and indirect costs, (a) paid by the United States in connection with the Site between September 30, 1995, and the effective date of this Consent Decree, or (b) incurred prior to the effective date of this Consent Decree but paid after that date.

"Interest," shall mean interest at the rate specified for interest on investments of the Hazardous Substance Superfund established under Subchapter A of Chapter 98 of Title 26 of the U.S. Code, compounded on October 1 of each year, in accordance with 42 U.S.C. § 9607(a).

"MDEQ" shall mean the Michigan Department of Environmental Quality and any successor departments or agencies of the State.

"National Contingency Plan" or "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, and any amendments thereto.

**"Operable Unit One"** shall mean the remedy as set forth in the Record of Decision for the Site dated September 27, 1989, to address soil contamination.

**"Operable Unit Two"** shall mean the final remedy as set forth in the Record of Decision for the Site dated September 23, 1994, to address groundwater contamination.

**"Operation and Maintenance"** or **"O & M"** shall mean all activities required to maintain the effectiveness of the Remedial Action as required under the Operation and Maintenance Plan approved or developed by EPA pursuant to this Consent Decree and the Statement of Work (SOW).

**"Owner Settling Defendant"** shall mean any signatory to this Consent Decree who subsequently purchases the Site prior to the termination of this Consent Decree.

**"Paragraph"** shall mean a portion of this Consent Decree identified by an arabic numeral or an upper case letter.

**"Parties"** shall mean the United States and the Settling Defendants.

**"Past Response Costs"** shall mean all costs, including, but not limited to, direct and indirect costs, that the United States paid at or in connection with the Site from September 30, 1989, through the date of the September 30, 1995, plus Interest on all such costs which has accrued pursuant to 42 U.S.C. § 9607(a) through such date.

**"Performance Standards"** shall mean the cleanup standards and other measures of achievement of the goals of the Remedial

Action, set forth in the ROD and Section II. of the SOW and that are to be developed pursuant to the ROD and Section II of the SOW, including, but not limited to, any future determination by EPA in accordance with Section II(4)(B)(ii) of the SOW.

"Plaintiff" shall mean the United States.

"RCRA" shall mean the Solid Waste Disposal Act, as amended, 42 U.S.C. §§ 6901 et seq. (also known as the Resource Conservation and Recovery Act).

"Record of Decision" or "ROD" shall mean the EPA Record of Decision relating to Operable Unit Two at the Auto Ion Site signed on September 23, 1994, by the Regional Administrator, EPA Region 5, and all attachments thereto. The ROD is attached as Appendix A.

"Remedial Action" shall mean those activities, except for Operation and Maintenance, to be undertaken by the Settling Defendants to implement the ROD, in accordance with the SOW and the final Remedial Design and Remedial Action Work Plans and other plans approved by EPA.

"Remedial Design" shall mean those activities to be undertaken by the Settling Defendants to develop the final plans and specifications for the Work pursuant to the Remedial Design Work Plan.

"Remedial Design Work Plan" shall mean the document developed pursuant to Paragraph 11 of this Consent Decree and approved by EPA, and any amendments thereto.

"Section" shall mean a portion of this Consent Decree

identified by a roman numeral.

"Settling Defendants" shall mean those Parties identified in Appendix D (Settling Defendants).

"Site" shall mean the Auto Ion Superfund Site, encompassing approximately 1.5 acres, located at 74 Mills Street in Kalamazoo, Kalamazoo County, Michigan, and as is depicted generally on the map attached as Appendix C.

"State" shall mean the State of Michigan.

"Statement of Work" or "SOW" shall mean the statement of work for implementation of the Remedial Design, Remedial Action, and Operation and Maintenance at the Site, as set forth in Appendix B to this Consent Decree and any modifications made in accordance with this Consent Decree.

"Supervising Contractor" shall mean the principal contractor retained by the Settling Defendants to supervise and direct the implementation of the Work under this Consent Decree.

"United States" shall mean the United States of America.

"Waste Material" shall mean (1) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (2) any pollutant or contaminant under Section 101(33), 42 U.S.C. § 9601(33); and (3) any "solid waste" under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27); and (4) any "hazardous substances" under Michigan Environmental Response Act, Section 299.603(p), 1982 Public Act 307 as amended.

"Work" shall mean all activities Settling Defendants are required to perform under this Consent Decree, except those

required by Section XXV (Retention of Records).

# V. GENERAL PROVISIONS

## 5. Objectives of the Parties

The objectives of the Parties in entering into this Consent Decree are to protect public health or welfare or the environment at the Site by the design and implementation of response actions at the Site by the Settling Defendants, to reimburse response costs of the Plaintiff, to resolve the claims of Plaintiff against Settling Defendants as provided in this Consent Decree, and, without limitation, to obtain the covenants not to sue and contribution protection referred to herein.

## 6. Commitments by Settling Defendants

a. Settling Defendants shall finance and perform the Work in accordance with this Consent Decree, the ROD, the SOW, and all work plans and other plans, standards, specifications, and schedules set forth herein or developed by Settling Defendants and approved by EPA pursuant to this Consent Decree. Settling Defendants shall also reimburse the United States for Past Response Costs and Future Response Costs as provided in this Consent Decree.

b. The obligations of Settling Defendants to finance and perform the Work and to pay amounts owed the United States under this Consent Decree are joint and several. In the event of the insolvency or other failure of any one or more Settling Defendants to implement the requirements of this Consent Decree, the remaining Settling Defendants shall complete all such

requirements.

**7. Compliance With Applicable Law**

All activities undertaken by Settling Defendants pursuant to this Consent Decree shall be performed in accordance with the requirements of all applicable federal and state laws and regulations. Settling Defendants must also comply with all applicable or relevant and appropriate requirements of all Federal and state environmental laws as set forth in the ROD and the SOW. The activities conducted pursuant to this Consent Decree, if approved by EPA, shall be considered to be consistent with the NCP.

**8. Permits**

a. As provided in Section 121(e) of CERCLA and Section 300.400(e) of the NCP, no permit shall be required for any portion of the Work conducted entirely on-site (i.e., within the areal extent of contamination or in very close proximity to the contamination and necessary for implementation of the Work). Where any portion of the Work that is not on-site requires a federal or state permit or approval, Settling Defendants shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals.

b. The Settling Defendants may seek relief under the provisions of Section XVIII (Force Majeure) of this Consent Decree for any delay in the performance of the Work resulting from a failure to obtain, or a delay in obtaining, any permit required for the Work.

c. This Consent Decree is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

9. Notice of Obligations to Successors-in-Title

a. Within 15 days after the entry of this Consent Decree, any Owner Settling Defendant shall record a certified copy of this Consent Decree with the Recorder's Office, Kalamazoo County, State of Michigan. Thereafter, each deed, title, or other instrument conveying an interest in the property included in the Site shall contain a notice stating that the property is subject to this Consent Decree and shall reference the recorded location of the Consent Decree and any restrictions applicable to the property under this Consent Decree.

a. The obligations of any Owner Settling Defendant with respect to the provision of access under Section IX (Access and Institutional Controls) and the implementation of institutional controls under Section IX shall be binding upon any and all such Owner Settling Defendant and any and all persons who subsequently acquire any such interest or portion thereof (hereinafter "Successors-in-Title"). Within 15 days after the entry of this Consent Decree, any Owner Settling Defendant shall record at the Recorder's Office a notice of obligation to provide access under Section IX (Access and Institutional Controls) and related covenants, if any. Each subsequent instrument conveying an interest to any such property included in the Site shall reference the recorded location of such notice and covenants

applicable to the property.

b. Any Owner Settling Defendant and any Successor-in-Title shall, at least 30 days prior to the conveyance of any such interest, give written notice of this Consent Decree to the grantee and written notice to EPA and the State of the proposed conveyance, including the name and address of the grantee, and the date on which notice of the Consent Decree was given to the grantee. In the event of any such conveyance, any Owner Settling Defendant's obligations under this Consent Decree, including their obligations to provide or secure access pursuant to Section IX, shall continue to be met by any Owner Settling Defendant. In addition, if the United States and the State approves, the grantee may perform some or all of the Work under this Consent Decree. In no event shall the conveyance of an interest in property that includes, or is a portion of, the Site release or otherwise affect the liability of any Settling Defendant to comply with the Consent Decree.

#### **VI. PERFORMANCE OF THE WORK BY SETTLING DEFENDANTS**

##### **10. Selection of Supervising Contractor.**

a. All aspects of the Work to be performed by Settling Defendants pursuant to Sections VI (Performance of the Work by Settling Defendants), VII (Remedy Review), VIII (Quality Assurance, Sampling and Data Analysis), and XV (Emergency Response) of this Consent Decree shall be under the direction and supervision of the Supervising Contractor, the selection of which shall be subject to disapproval by EPA after a reasonable

opportunity for review and comment by the State. Within 10 days after the lodging of this Consent Decree, Settling Defendants shall notify EPA and the State in writing of the name, title, and qualifications of any contractor proposed to be the Supervising Contractor. EPA will issue a notice of disapproval or an authorization to proceed. If at any time thereafter, Settling Defendants propose to change a Supervising Contractor, Settling Defendants shall give such notice to EPA and the State and must obtain an authorization to proceed from EPA, after a reasonable opportunity for review and comment by the State, before the new Supervising Contractor performs, directs, or supervises any Work under this Consent Decree.

b. If EPA disapproves a proposed Supervising Contractor, EPA will notify Settling Defendants in writing. Settling Defendants shall submit to EPA and the State a list of contractors, including the qualifications of each contractor, that would be acceptable to them within 30 days of receipt of EPA's disapproval of the contractor previously proposed. EPA will provide written notice of the names of any contractor(s) that it disapproves and an authorization to proceed with respect to any of the other contractors. Settling Defendants may select any contractor from that list that is not disapproved and shall notify EPA and the State of the name of the contractor selected within 21 days of EPA's authorization to proceed.

c. EPA's authorization to proceed shall not become effective, for purposes of Paragraph 11, below, until the

effective date of this Consent Decree. If EPA fails to provide written notice of its authorization to proceed or disapproval as provided in this Paragraph and this failure prevents the Settling Defendants from meeting one or more deadlines in a plan approved by the EPA pursuant to this Consent Decree, Settling Defendants may seek relief under the provisions of Section XVIII (Force Majeure) hereof.

11. Remedial Design.

a. Within 60 days after the effective date of this Consent Decree, Settling Defendants shall submit to EPA and the State a work plan for the design of the Remedial Action at the Site ("Remedial Design Work Plan" or "RD Work Plan"). The Remedial Design Work Plan shall provide for design of the remedy set forth in the ROD, in accordance with the SOW and for achievement of the Performance Standards and other requirements set forth in the ROD, this Consent Decree and/or the SOW. Upon its approval by EPA, the Remedial Design Work Plan shall be incorporated into and become enforceable under this Consent Decree. At the same time as they submit the Remedial Design Work Plan, Settling Defendants shall submit to EPA and the State a Health and Safety Plan for field activities required by the Remedial Action Work Plan which conforms to the applicable Occupational Safety and Health Administration and EPA requirements including, but not limited to, 29 C.F.R. § 1910.120.

b. The Remedial Design Work Plan shall include plans and schedules for implementation of all remedial design and remedial

action identified in the SOW, including, but not limited to, plans and schedules for the completion of: (1) Groundwater Monitoring/Alternate Concentration Limits (ACLs) Establishment Plan (including, but not limited to, a Remedial Design/Remedial Action Quality Assurance Project Plan (RD/RA QAPP) in accordance with Section VIII (Quality Assurance, Sampling and Data Analysis); (2) methodology for the establishment of ACLs ; (3) Contingency Plan ((Remedial Action Plan (RAP) in the event ACLs are exceeded)); (4) an Operation and Maintenance (O & M) Plan; (5) a schedule for the implementation of all remedial activities; (6) Health and Safety Plan; and (7) Monitoring Well Installation Plan.

c. Upon approval of the Remedial Design Work Plan by EPA, after a reasonable opportunity for review and comment by the State, and submittal of the Health and Safety Plan for all field activities to EPA and the State, Settling Defendants shall implement the Remedial Design Work Plan. The Settling Defendants shall submit to EPA and the State all plans, submittals and other deliverables required under the approved Remedial Design Work Plan in accordance with the approved schedule for review and approval pursuant to Section XI (EPA Approval of Plans and Other Submissions). Unless otherwise directed by EPA, Settling Defendants shall not commence further Remedial Design activities at the Site prior to approval of the Remedial Design Work Plan.

12. Remedial Action.

a. Within 30 days after the approval of the RD Work Plan,

Settling Defendants shall commence Remedial Action ("RA") at the Site. The Remedial Action shall provide for construction and implementation of the remedy set forth in the ROD and achievement of the Performance Standards, in accordance with this Consent Decree, the ROD, and the SOW.

b. The Settling Defendants shall submit to EPA and the State all plans, submittals, or other deliverables required under the approved Remedial Design Work Plan in accordance with the approved schedule for review and approval pursuant to Section XI (EPA Approval of Plans and Other Submissions). Notwithstanding anything to the contrary herein, Settling Defendants agree to commence installation of the groundwater monitoring wells and the first round of monitoring, in accordance with the SOW and the approved RD Work Plan, in advance of the effective date of this Consent Decree. Otherwise, unless mutually agreed upon by the parties, Settling Defendants shall not commence physical Remedial Action activities at the Site prior to approval of the Remedial Action Work Plan.

13. The Settling Defendants shall continue to implement the Remedial Action and O&M until the Performance Standards are achieved and for so long thereafter as is otherwise required under this Consent Decree. However, if after Settling Defendants implement the Remedial Action and O&M, and the Performance Standards are still not achieved, Settling Defendants may petition to EPA, pursuant to Section XIV of this Consent Decree, to cease the Work at the Site if Settling Defendants can

demonstrate that each exceedance of the Performance Standards is caused solely by Waste Materials that migrate on to the Site, after the effective date of the ROD for Operable Unit Two, from a source other than the Site.

14. Modification of the SOW or Related Work Plans.

a. If EPA determines that modification to the work specified in the SOW and/or in work plans developed pursuant to the SOW is necessary to achieve and maintain the Performance Standards or to carry out and maintain the effectiveness of the remedy set forth in the ROD, EPA may require that such modification be incorporated in the SOW and/or such work plans. Provided, however, that a modification may only be required pursuant to this Paragraph to the extent that it is consistent with the scope of the remedy selected in the ROD.

b. For the purposes of this Paragraph 14 and Paragraphs 48 and 49 only, the "scope of the remedy selected in the ROD" is: natural attenuation, deed restrictions, the establishment of Alternative Concentration Limits ("ACLs") to be used for monitoring the groundwater discharging into the Kalamazoo River, groundwater monitoring, and the implementation of additional response actions as described herein if the ACLs are exceeded. If an established ACL is exceeded for two consecutive sampling events as detailed in the SOW, then a Remedial Action Plan ("RAP") shall be implemented to address the ACL exceedance. The RAP shall be developed by the Settling Defendants as part of the RD Work Plan. U.S. EPA, in

consultation with MDEQ, shall review and approve the final RAP. The RAP shall consist of pre-determined response actions to address ACL exceedances. The RAP shall be designed to further evaluate, and, if necessary, mitigate an impact by contaminants to the Kalamazoo River or a threat to human health and the environment. In the event of an ACL exceedance, the first response action will involve assessing the validity of the data. If the data are valid, then additional potential responses will be implemented. Examples of additional potential responses which U.S. EPA could approve, in consultation with MDEQ, include, but are not limited to, evaluation of groundwater concentration after mixing with surface water and comparison to Federal surface water quality criteria to determine significance of ACL exceedance, confirmational sampling, increased sampling frequency, determination of impact to Kalamazoo River through surface water, sediment and biota sampling, and implementation of an appropriate alternate remedial action designed to mitigate any threats to human health or the environment, e.g., installation of a groundwater extraction/treatment system.

c. If Settling Defendants object to any modification determined by EPA to be necessary pursuant to this Paragraph, they may seek dispute resolution pursuant to Section XIX (Dispute Resolution), Paragraph 66 (record review). The SOW and/or related work plans shall be modified in accordance with final resolution of the dispute.

d. Settling Defendants shall implement any work

required by any modifications incorporated in the SOW and/or in work plans developed pursuant to the SOW in accordance with this Paragraph.

e. Nothing in this Paragraph shall be construed to limit EPA's authority to require performance of further response actions as otherwise provided in this Consent Decree.

15. Settling Defendants acknowledge and agree that nothing in this Consent Decree, the SOW, or the Remedial Design Work Plan constitutes a warranty or representation of any kind by Plaintiff that compliance with the work requirements set forth in the SOW and the RD Work Plan will achieve the Performance Standards.

16. Settling Defendants shall, prior to any off-Site shipment of Waste Material from the Site to an out-of-state waste management facility, provide written notification to the appropriate state environmental official in the receiving facility's state and to the EPA Project Coordinator of such shipment of Waste Material. However, this notification requirement shall not apply to any off-Site shipments when the total volume of all such shipments will not exceed 10 cubic yards.

a. The Settling Defendants shall include in the written notification the following information, where available:

- (1) the name and location of the facility to which the Waste Material is to be shipped;
- (2) the type and quantity of the Waste Material to be shipped;
- (3) the expected schedule for the shipment of the Waste Material; and
- (4) the method of

transportation. The Settling Defendants shall notify the state in which the planned receiving facility is located of major changes in the shipment plan, such as a decision to ship the Waste Material to another facility within the same state, or to a facility in another state.

b. The identity of the receiving facility and state will be determined by the Settling Defendants following the award of the contract for Remedial Action construction. The Settling Defendants shall provide the information required by Paragraph 16a. as soon as practicable after the award of the contract and before the Waste Material is actually shipped.

#### **VII. REMEDY REVIEW**

17. **Periodic Review.** Settling Defendants shall conduct any studies and investigations as requested by EPA, in order to permit EPA to conduct reviews of whether the Remedial Action is protective of human health and the environment at least every five years as required by Section 121(c) of CERCLA and any applicable regulations.

18. **EPA Selection of Further Response Actions.** If EPA determines, at any time, that the Remedial Action is not protective of human health and the environment, EPA may select further response actions for the Site in accordance with the requirements of CERCLA and the NCP.

19. **Opportunity To Comment.** Settling Defendants and, if required by Sections 113(k)(2) or 117 of CERCLA, the public, will be provided with an opportunity to comment on any further

response actions proposed by EPA as a result of the review conducted pursuant to Section 121(c) of CERCLA and to submit written comments for the record during the comment period.

20. Settling Defendants' Obligation To Perform Further Response Actions. If EPA selects further response actions for the Site, the Settling Defendants shall undertake such further response actions to the extent that the reopener conditions in Paragraph 81 or Paragraph 82 (United States' reservations of liability based on unknown conditions or new information) are satisfied. Settling Defendants may invoke the procedures set forth in Section XIX (Dispute Resolution) to dispute (1) EPA's determination that the reopener conditions of Paragraph 81 or Paragraph 82 of Section XXI (Covenants Not To Sue by Plaintiff) are satisfied, (2) EPA's determination that the Remedial Action is not protective of human health and the environment, or (3) EPA's selection of the further response actions. Disputes pertaining to whether the Remedial Action is protective or to EPA's selection of further response actions shall be resolved pursuant to Paragraph 66 (record review).

21. Submissions of Plans. If Settling Defendants are required to perform the further response actions pursuant to Paragraph 18, they shall submit a plan for such work to EPA for approval in accordance with the procedures set forth in Section VI (Performance of the Work by Settling Defendants) and shall implement the plan approved by EPA in accordance with the provisions of this Decree.

**VIII. QUALITY ASSURANCE, SAMPLING, and DATA ANALYSIS**

22. Settling Defendants shall use quality assurance, quality control, and chain of custody procedures for all design, compliance and monitoring samples in accordance with "EPA Requirements for Quality Assurance Project Plans for Environmental Data Operation," EPA QA/R5; "Preparing Perfect Project Plans," (EPA/600/9-88/087), and subsequent amendments to such guidelines upon notification by EPA to Settling Defendants of such amendment. Amended guidelines shall apply only to procedures conducted after such notification. Prior to the commencement of any monitoring project under this Consent Decree, Settling Defendants shall submit to EPA for approval, after a reasonable opportunity for review and comment by the State, a Quality Assurance Project Plan ("QAPP") that is consistent with the SOW, the NCP and applicable guidance documents. If relevant to the proceeding, the Parties agree that validated sampling data generated in accordance with the QAPP and reviewed and approved by EPA shall be admissible as evidence, without objection, in any proceeding under this Decree. Settling Defendants shall ensure that EPA and State personnel and their authorized representatives are allowed access at reasonable times to all laboratories utilized by Settling Defendants in implementing this Consent Decree. In addition, Settling Defendants shall ensure that such laboratories shall analyze all samples submitted by EPA pursuant to the QAPP for quality assurance monitoring. Settling Defendants shall ensure that the laboratories they utilize for

the analysis of samples taken pursuant to this Decree perform all analyses according to accepted EPA methods. Accepted EPA methods consist of those methods which are documented in the "Contract Lab Program Statement of Work for Inorganic Analysis" and the "Contract Lab Program Statement of Work for Organic Analysis," dated February 1988, and any amendments made thereto during the course of the implementation of this Decree. Settling Defendants shall ensure that all laboratories they use for analysis of samples taken pursuant to this Consent Decree participate in an EPA or EPA-equivalent QA/QC program. Settling Defendants shall ensure that all field methodologies utilized in collecting samples for subsequent analysis pursuant to this Decree will be conducted in accordance with the procedures set forth in the QAPP approved by EPA.

23. Upon request, the Settling Defendants shall allow split or duplicate samples to be taken by EPA and the State or their authorized representatives. Settling Defendants shall notify EPA and the State not less than 7 days in advance of any sample collection activity unless shorter notice is agreed to by EPA. In addition, EPA and the State shall have the right to take any additional samples that EPA or the State deem necessary. Upon request, EPA and the State shall allow the Settling Defendants to take split or duplicate samples of any samples they take as part of the Plaintiff's oversight of the Settling Defendants' implementation of the Work.

24. Settling Defendants shall submit to EPA and the State

one copy of the results of all sampling and/or tests or other data obtained or generated by or on behalf of Settling Defendants with respect to the Site and/or the implementation of this Consent Decree unless EPA instructs otherwise.

25. Notwithstanding any provision of this Consent Decree, the United States hereby retains all of its information gathering and inspection authorities and rights, including enforcement actions related thereto, under CERCLA, RCRA and any other applicable statutes or regulations.

#### **IX. ACCESS AND INSTITUTIONAL CONTROLS**

##### **26. Access.**

Commencing upon the date of lodging of this Consent Decree, the Settling Defendants agree to provide the United States, the State, and their representatives, including EPA and its contractors, access at all reasonable times to the Site and any other property to which access is required for the implementation of this Consent Decree, to the extent access to the property is controlled by Settling Defendants, for the purposes of conducting any activity related to this Consent Decree including, but not limited to:

- a. Monitoring the Work;
- b. Verifying any data or information submitted to the United States or the State;
- c. Conducting investigations relating to contamination at or near the Site;
- d. Obtaining samples;

e. Assessing the need for, planning, or implementing additional response actions at or near the Site;

f. Inspecting and copying records, operating logs, contracts, or other documents maintained or generated by Settling Defendants or their agents, consistent with Section XXV; and

g. Assessing Settling Defendants' compliance with this Consent Decree.

27. a. To the extent that the Site or any other property to which access is required for the implementation of this Consent Decree is owned or controlled by persons other than Settling Defendants, Settling Defendants shall use best efforts to secure from such persons access for Settling Defendants, as well as for the United States and the State and their representatives, including, but not limited to, their contractors, as necessary to effectuate this Consent Decree. For purposes of this Paragraph "best efforts" includes the payment of reasonable sums of money in consideration of access. If any access required to complete the Work is not obtained within 45 days of the date of lodging of this Consent Decree, or within 45 days of the date EPA notifies the Settling Defendants in writing that additional access beyond that previously secured is necessary, Settling Defendants shall promptly notify the United States in writing, and shall include in that notification a summary of the steps Settling Defendants have taken to attempt to obtain access. The United States may, as it deems appropriate, assist Settling Defendants in obtaining access.

b. Notwithstanding any provision of this Consent Decree, the United States retains all of its access authorities and rights, including enforcement authorities related thereto, under CERCLA, RCRA and any other applicable statute or regulations.

**28. Institutional Controls.**

Settling Defendants shall use best efforts to have the State of Michigan, or any successor owner of the Site, execute the deed restrictions in Appendix E. If execution of the institutional controls as required cannot be obtained within 90 days of the effective date of this Consent Decree, Settling Defendants shall promptly notify the United States in writing, and shall include in that notification a summary of the steps Settling Defendants have taken to attempt to obtain execution of the institutional controls. The United States may, as it deems appropriate, assist Settling Defendants in obtaining execution of the institutional controls. Settling Defendants shall reimburse the United States in accordance with the procedures in Section XVI (Reimbursement of Response Costs), for all costs incurred by the United States in obtaining execution of the institutional controls. Within 15 days after the execution of the institutional controls, Settling Defendants shall use best efforts to record with the Kalamazoo County Recorder of Deeds a copy of the deed restrictions attached as Appendix E to this Consent Decree.

**X. REPORTING REQUIREMENTS**

29. In addition to any other requirement of this Consent

Decree, Settling Defendants shall submit to EPA and the State one copy of the groundwater monitoring reports that: (a) describe the sampling activities; (b) include copies of the lab's analytical data, summary data sheets highlighting the parameters sampled, method detection limits, quantitation limits and the analytical results in the previous sampling event; (c) describe all actions which are planned for the next sampling event; (d) include information regarding unresolved delays encountered or anticipated that may affect the future schedule for implementation of the Work, and a description of efforts made to mitigate these delays or anticipated delays; and (e) include any modifications to the work plans or other schedules that Settling Defendants have proposed to EPA or that have been approved by EPA. Settling Defendants shall submit these reports to EPA and the State within 60 days following completion of a sampling event. If requested by EPA or the State, Settling Defendants shall also provide briefings for EPA and the State to discuss the progress of the Work.

30. The Settling Defendants shall notify EPA in writing of any change in the schedule or performance of any activity, including, but not limited to, data collection and implementation of work plans, no later than seven days prior to the performance of the activity.

31. Upon the occurrence of any event during performance of the Work that Settling Defendants are required to report pursuant to Section 103 of CERCLA or Section 304 of the Emergency Planning

and Community Right-to-know Act (EPCRA), Settling Defendants shall within 24 hours of the onset of such event orally notify the EPA Project Coordinator or the Alternate EPA Project Coordinator (in the event of the unavailability of the EPA Project Coordinator), or, in the event that neither the EPA Project Coordinator or Alternate EPA Project Coordinator is available, the Emergency Response Section, Region 5, United States Environmental Protection Agency. These reporting requirements are in addition to the reporting required by CERCLA Section 103 or EPCRA Section 304.

32. Within 20 days of the onset of such an event, Settling Defendants shall furnish to Plaintiff a written report, signed by the Settling Defendants' Project Coordinator, setting forth the events which occurred and the measures taken, and to be taken, in response thereto. Within 30 days of the conclusion of such an event, Settling Defendants shall submit a report setting forth all actions taken in response thereto.

33. Unless otherwise specified herein or agreed upon by EPA, Settling Defendants shall submit two copies of all plans, reports, and data required by the SOW, the Remedial Design Work Plan, the Remedial Action Work Plan, or any other approved plans to EPA in accordance with the schedules set forth in such plans. Unless otherwise specified herein or agreed upon by EPA, Settling Defendants shall simultaneously submit two copies of all such plans, reports and data to the State.

34. All reports and other documents submitted by Settling

Defendants to EPA (other than the groundwater monitoring reports referred to above) which purport to document Settling Defendants' compliance with the terms of this Consent Decree shall be signed by an authorized representative of the Settling Defendants.

35. In the event that additional work is required under the SOW (i.e., implementation of the RAP), a schedule will be developed for the submission of progress reports relating to the additional work. The schedule for and the contents of the progress reports will be subject to approval by U.S. EPA.

#### XI. EPA APPROVAL OF PLANS AND OTHER SUBMISSIONS

36. After review of any plan, report or other item which is required to be submitted for approval pursuant to this Consent Decree, EPA, after reasonable opportunity for review and comment by the State, shall: (a) approve, in whole or in part, the submission; (b) approve the submission upon specified conditions; (c) modify the submission to cure the deficiencies; (d) disapprove, in whole or in part, the submission, directing that the Settling Defendants modify the submission; or (e) any combination of the above. However, EPA shall not modify a submission without first providing Settling Defendants at least one notice of deficiency and an opportunity to cure within 14 days, except where to do so would cause serious disruption to the Work or where previous submission(s) have been disapproved due to material defects and the deficiencies in the submission under consideration indicate a bad faith lack of effort to submit an acceptable deliverable.

37. In the event of approval, approval upon conditions, or modification by EPA, pursuant to Paragraph 36(a), (b), or (c), Settling Defendants shall proceed to take any action required by the plan, report, or other item, as approved or modified by EPA subject only to their right to invoke the Dispute Resolution procedures set forth in Section XIX (Dispute Resolution) with respect to the modifications or conditions made by EPA. In the event that EPA modifies the submission to cure the deficiencies pursuant to Paragraph 36(c) and the submission has a material defect, EPA retains its right to seek stipulated penalties, as provided in Section XX (Stipulated Penalties).

38. a. Upon receipt of a notice of disapproval pursuant to Paragraph 36(d), Settling Defendants shall, within 14 days or such longer time as specified by EPA in such notice, correct the deficiencies and resubmit the plan, report, or other item for approval. Any stipulated penalties applicable to the submission, as provided in Section XX, shall accrue during the 14-day period or otherwise specified period but shall not be payable unless the resubmission is disapproved or modified due to a material defect as provided in Paragraphs 39 and 40.

b. Notwithstanding the receipt of a notice of disapproval pursuant to Paragraph 36(d), Settling Defendants shall proceed, at the direction of EPA, to take any action required by any non-deficient portion of the submission. Implementation of any non-deficient portion of a submission shall not relieve Settling Defendants of any liability for stipulated

penalties under Section XX (Stipulated Penalties).

39. In the event that a resubmitted plan, report or other item, or portion thereof, is disapproved by EPA, EPA may again require the Settling Defendants to correct the deficiencies, in accordance with the preceding Paragraphs. EPA also retains the right to modify or develop the plan, report or other item. Settling Defendants shall implement any such plan, report, or item as modified or developed by EPA, subject only to their right to invoke the procedures set forth in Section XIX (Dispute Resolution).

40. If upon resubmission, a plan, report, or item is disapproved or modified by EPA due to a material defect, Settling Defendants shall be deemed to have failed to submit such plan, report, or item timely and adequately unless the Settling Defendants invoke the dispute resolution procedures set forth in Section XIX (Dispute Resolution) and EPA's action is overturned pursuant to that Section. The provisions of Section XIX (Dispute Resolution) and Section XX (Stipulated Penalties) shall govern the implementation of the Work and accrual and payment of any stipulated penalties during Dispute Resolution. If EPA's disapproval or modification is upheld, stipulated penalties shall accrue for such violation from the date on which the initial submission was originally required, as provided in Section XX.

41. All plans, reports, and other items required to be submitted to EPA under this Consent Decree shall, upon approval or modification by EPA, be enforceable under this Consent Decree.

In the event EPA approves or modifies a portion of a plan, report, or other item required to be submitted to EPA under this Consent Decree, the approved or modified portion shall be enforceable under this Consent Decree.

## **XII. PROJECT COORDINATORS**

42. Within 20 days of lodging this Consent Decree, Settling Defendants, the State, and EPA will notify each other, in writing, of the name, address and telephone number of their respective designated Project Coordinators and Alternate Project Coordinators. If a Project Coordinator or Alternate Project Coordinator initially designated is changed, the identity of the successor will be given to the other Parties at least 5 working days before the changes occur, unless impracticable, but in no event later than the actual day the change is made. The Settling Defendants' Project Coordinator shall be subject to disapproval by EPA and shall have the technical expertise sufficient to adequately oversee all aspects of the Work. The Settling Defendants' Project Coordinator shall not be an attorney for any of the Settling Defendants in this matter. He or she may assign other representatives, including other contractors, to serve as a Site representative for oversight of performance of daily operations during remedial activities.

43. Plaintiff may designate other representatives, including, but not limited to, EPA and State employees, and federal and State contractors and consultants, to observe and monitor the progress of any activity undertaken pursuant to this

Consent Decree. EPA's Project Coordinator and Alternate Project Coordinator shall have the authority lawfully vested in a Remedial Project Manager (RPM) and an On-Scene Coordinator (OSC) by the National Contingency Plan, 40 C.F.R. Part 300. In addition, EPA's Project Coordinator or Alternate Project Coordinator shall have authority, consistent with the National Contingency Plan, to halt any Work required by this Consent Decree and to take any necessary response action when s/he determines that conditions at the Site constitute an emergency situation or may present an immediate threat to public health or welfare or the environment due to release or threatened release of Waste Material.

**XIII. ASSURANCE OF ABILITY TO COMPLETE WORK**

44. Within 30 days of entry of this Consent Decree, Settling Defendants shall establish and maintain financial security in the amount of \$565,000 in one or more of the following forms:

- (a) A surety bond guaranteeing performance of the Work;
- (b) One or more irrevocable letters of credit equalling the total estimated cost of the Work;
- (c) A trust fund;
- (d) A guarantee to perform the Work by one or more parent corporations or subsidiaries, or by one or more unrelated corporations that have a substantial business relationship with at least one of the Settling Defendants; or
- (e) A demonstration that one or more of the Settling

Defendants satisfy the requirements of 40 C.F.R. Part 264.143(f).

45. If the Settling Defendants seek to demonstrate the ability to complete the Work through a guarantee by a third party pursuant to Paragraph 44(d) of this Consent Decree, Settling Defendants shall demonstrate that the guarantor satisfies the requirements of 40 C.F.R. Part 264.143(f). If Settling Defendants seek to demonstrate their ability to complete the Work by means of the financial test or the corporate guarantee pursuant to Paragraph 43(d) or (e), they shall resubmit sworn statements conveying the information required by 40 C.F.R. Part 264.143(f) annually, on the anniversary of the effective date of this Consent Decree. In the event that EPA, after a reasonable opportunity for review and comment by the State, determines at any time that the financial assurances provided pursuant to this Section are inadequate, Settling Defendants shall, within 30 days of receipt of notice of EPA's determination, obtain and present to EPA for approval one of the other forms of financial assurance listed in Paragraph 44 of this Consent Decree. Settling Defendants' inability to demonstrate financial ability to complete the Work shall not excuse performance of any activities required under this Consent Decree.

46. If Settling Defendants can show that the estimated cost to complete the remaining Work has diminished below the amount set forth in Paragraph 44 above after entry of this Consent Decree, Settling Defendants may, on any anniversary date of entry of this Consent Decree, or at any other time agreed to by the

Parties, reduce the amount of the financial security provided under this Section to the estimated cost of the remaining work to be performed. Settling Defendants shall submit a proposal for such reduction to EPA, in accordance with the requirements of this Section, and may reduce the amount of the security upon approval by EPA. In the event of a dispute, Settling Defendants may reduce the amount of the security in accordance with the final administrative or judicial decision resolving the dispute.

47. Settling Defendants may change the form of financial assurance provided under this Section at any time, upon notice to and approval by EPA, provided that the new form of assurance meets the requirements of this Section. In the event of a dispute, Settling Defendants may change the form of the financial assurance only in accordance with the final administrative or judicial decision resolving the dispute.

#### XIV. CERTIFICATION OF COMPLETION

##### 48. Completion of the Remedial Action

a. Within 30 days after Settling Defendants conclude that the Remedial Action has been fully performed and the Performance Standards have been attained, Settling Defendants shall schedule and conduct a pre-certification inspection to be attended by Settling Defendants, EPA, and, if appropriate, the State. If, after the pre-certification inspection, the Settling Defendants still believe that the Remedial Action has been fully performed and the Performance Standards have been attained, they shall submit a written report requesting certification to EPA for

approval, with a copy to the State, pursuant to Section XI (EPA Approval of Plans and Other Submissions) within 30 days of the inspection. In the report, a registered professional engineer and the Settling Defendants' Project Coordinator shall state that the Remedial Action has been completed in full satisfaction of the requirements of this Consent Decree. The written report shall include as-built drawings signed and stamped by a professional engineer. The report shall contain the following statement, signed by a responsible corporate official of a Settling Defendant or the Settling Defendants' Project Coordinator:

"To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

If, after completion of the pre-certification inspection and receipt and review of the written report, EPA, after reasonable opportunity to review and comment by the State, determines that the Remedial Action or any portion thereof has not been completed in accordance with this Consent Decree or that the Performance Standards have not been achieved, EPA will notify Settling Defendants in writing of the activities that must be undertaken by Settling Defendants pursuant to this Consent Decree to complete the Remedial Action and achieve the Performance Standards. Provided, however, that EPA may only require Settling Defendants to perform such activities pursuant to this Paragraph

to the extent that such activities are consistent with the "scope of the remedy selected in the ROD," as that term is defined in Paragraph 14.b. EPA will set forth in the notice a schedule for performance of such activities consistent with the Consent Decree and the SOW or require the Settling Defendants to submit a schedule to EPA for approval pursuant to Section XI (EPA Approval of Plans and Other Submissions). Settling Defendants shall perform all activities described in the notice in accordance with the specifications and schedules established pursuant to this Paragraph, subject to their right to invoke the dispute resolution procedures set forth in Section XIX (Dispute Resolution).

b. If EPA concludes, based on the initial or any subsequent report requesting Certification of Completion and after a reasonable opportunity for review and comment by the State, that the Remedial Action has been performed in accordance with this Consent Decree and that Performance Standards have been achieved, EPA will so certify in writing to Settling Defendants. This certification shall constitute the Certification of Completion of the Remedial Action for purposes of this Consent Decree, including, but not limited to, Section XXI (Covenants Not to Sue by Plaintiff). Certification of Completion of the Remedial Action shall not affect Settling Defendants' obligations under this Consent Decree.

#### 49. Completion of the Work

a. Within 30 days after Settling Defendants conclude

that all phases of the Work (including O & M), have been fully performed, Settling Defendants shall schedule and conduct a pre-certification inspection to be attended by Settling Defendants, EPA, and, if appropriate, the State. If, after the pre-certification inspection, the Settling Defendants still believe that the Work has been fully performed, Settling Defendants shall submit a written report by a registered professional engineer stating that the Work has been completed in full satisfaction of the requirements of this Consent Decree. The report shall contain the following statement, signed by a responsible corporate official of a Settling Defendant or the Settling Defendants' Project Coordinator:

"To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

If, after review of the written report, EPA, after reasonable opportunity to review and comment by the State, determines that any portion of the Work has not been completed in accordance with this Consent Decree, EPA will notify Settling Defendants in writing of the activities that must be undertaken by Settling Defendants pursuant to this Consent Decree to complete the Work. Provided, however, that EPA may only require Settling Defendants to perform such activities pursuant to this Paragraph to the extent that such activities are consistent with the "scope of the remedy selected in the ROD," as that term is defined in Paragraph

14.b. EPA will set forth in the notice a schedule for performance of such activities consistent with the Consent Decree and the SOW or require the Settling Defendants to submit a schedule to EPA for approval pursuant to Section XI (EPA Approval of Plans and Other Submissions). Settling Defendants shall perform all activities described in the notice in accordance with the specifications and schedules established therein, subject to their right to invoke the dispute resolution procedures set forth in Section XIX (Dispute Resolution).

b. If EPA concludes, based on the initial or any subsequent request for Certification of Completion by Settling Defendants and after a reasonable opportunity for review and comment by the State, that the Work has been performed in accordance with this Consent Decree, EPA will so notify the Settling Defendants in writing.

#### XV. EMERGENCY RESPONSE

50. In the event of any action or occurrence during the performance of the Work which causes or threatens a release of Waste Material from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Settling Defendants shall, subject to Paragraph 53, immediately take all appropriate action to prevent, abate, or minimize such release or threat of release, and shall immediately notify the EPA's Project Coordinator, or, if the Project Coordinator is unavailable, EPA's Alternate Project Coordinator. If neither of these persons is available, the

Settling Defendants shall notify the EPA Emergency Response Unit, Region 5. Settling Defendants shall take such actions in consultation with EPA's Project Coordinator or other available authorized EPA officer and in accordance with all applicable provisions of the Health and Safety Plans, the Contingency Plans, and any other applicable plans or documents developed pursuant to the SOW. In the event that Settling Defendants fail to take appropriate response action as required by this Section, and EPA takes such action instead, Settling Defendants shall reimburse EPA's Hazardous Substance Superfund for all costs of the response action not inconsistent with the NCP pursuant to Section XVI (Reimbursement of Response Costs).

51. Nothing in the preceding Paragraph or in this Consent Decree shall be deemed to limit any authority of the United States, or the State, a) to take all appropriate action to protect human health and the environment or to prevent, abate, respond to, or minimize an actual or threatened release of Waste Material on, at, or from the Site, or b) to direct or order such action, or seek an order from the Court, to protect human health and the environment or to prevent, abate, respond to, or minimize an actual or threatened release of Waste Material on, at, or from the Site, subject to Section XXI (Covenants Not to Sue by Plaintiff).

#### **XVI. REIMBURSEMENT OF RESPONSE COSTS**

52. Within 30 days of the effective date of this Consent Decree, Settling Defendants shall:

Pay to the EPA Hazardous Substance Superfund \$ 360,000, in reimbursement of Past Response Costs, by FedWire Electronic Funds Transfer ("EFT" or wire transfer) to the U.S. Department of Justice account in accordance with current electronic funds transfer procedures, referencing U.S.A.O. file number , the EPA Region and Site/Spill ID #05-C4, and DOJ case number 90-11-2-1107. Payment shall be made in accordance with instructions provided to the Settling Defendants by the Financial Litigation Unit of the United States Attorney's Office for the Western District of Michigan following lodging of the Consent Decree. Any payments received by the Department of Justice after 4:00 P.M. (Eastern Time) will be credited on the next business day. Settling Defendants shall send notice that such payment has been made to the United States as specified in Section XXVI (Notices and Submissions) and to EPA Region 5, Attention: Superfund Accounting, P.O. Box 70753, Chicago IL 60673 and the Director, Superfund Division, EPA Region 5, 77 West Jackson Boulevard 60604-3590.

53. Settling Defendants shall reimburse the EPA Hazardous Substance Superfund for all Future Response Costs not inconsistent with the National Contingency Plan. Commencing no sooner than the first anniversary of the effective date of this Consent Decree, and at least annually thereafter, the United States will send Settling Defendants a bill requiring payment that includes an Itemized Cost Summary, which includes direct and indirect costs incurred by EPA, U.S. DOJ, and their contractors.

Settling Defendants shall make all payments within 30 days of Settling Defendants' receipt of each bill requiring payment, except as otherwise provided in Paragraph 55. The Settling Defendants shall make all payments required by this Paragraph in the form of a certified or cashier's check or checks made payable to "EPA Hazardous Substance Superfund" and referencing the EPA Region and Site/Spill ID #05-C4 , and the name and address of the party making payment. The Settling Defendants shall send the checks to Regional Superfund Lockbox Number 70753, Chicago, Illinois 60673, and shall send copies of the checks to the United States as specified in Section XXVI (Notices and Submissions) and to EPA Region 5, Attention: Superfund Accounting, P.O. Box 70753, Chicago IL 60673 and the Director, Superfund Division, EPA Region 5, 77 West Jackson Boulevard 60604-3590.

54. Settling Defendants may contest payment of any Future Response Costs under Paragraph 53 if they determine that the United States has made an accounting error or if they allege that a cost item that is included represents costs that are inconsistent with the NCP. Such objection shall be made in writing within 30 days of receipt of the bill and must be sent to the United States (if the United States' accounting is being disputed) pursuant to Section XXVI (Notices and Submissions). Any such objection shall specifically identify the contested Future Response Costs and the basis for objection. In the event of an objection, the Settling Defendants shall within the 30 day period pay all uncontested Future Response Costs to the United

States in the manner described in Paragraph 53. Simultaneously, the Settling Defendants shall establish an interest-bearing escrow account in a federally-insured bank duly chartered in the State of Michigan and remit to that escrow account funds equivalent to the amount of the contested Future Response Costs. The Settling Defendants shall send to the United States, as provided in Section XXVI (Notices and Submissions), a copy of the transmittal letter and check paying the uncontested Future Response Costs, and a copy of the correspondence that establishes and funds the escrow account, including, but not limited to, information containing the identity of the bank and bank account under which the escrow account is established as well as a bank statement showing the initial balance of the escrow account. Simultaneously with establishment of the escrow account, the Settling Defendants shall initiate the Dispute Resolution procedures in Section XIX (Dispute Resolution). If the United States prevails in the dispute, within 14 days of the resolution of the dispute, the Settling Defendants shall pay the sums due (with accrued interest) to the United States in the manner described in Paragraph 53. If the Settling Defendants prevail concerning any aspect of the contested costs, the Settling Defendants shall pay that portion of the costs (plus associated accrued interest) for which they did not prevail to the United States, in the manner described in Paragraph 53; Settling Defendants shall be disbursed any balance of the escrow account. The dispute resolution procedures set forth in this Paragraph in

conjunction with the procedures set forth in Section XIX (Dispute Resolution) shall be the exclusive mechanisms for resolving disputes regarding the Settling Defendants' obligation to reimburse the United States for its Future Response Costs.

55. In the event that the payments required by Paragraph 52 are not made within 30 days of the effective date of this Consent Decree or the payments required by Paragraph 53 are not made within 30 days of the Settling Defendants' receipt of the bill, Settling Defendants shall pay Interest on the unpaid balance. The Interest to be paid on Past Response Costs under this Paragraph shall begin to accrue 30 days after the effective date of this Consent Decree. The Interest on Future Response Costs shall begin to accrue on the date of the bill. The Interest shall accrue through the date of the Settling Defendant's payment. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to Plaintiff by virtue of Settling Defendants' failure to make timely payments under this Section. The Settling Defendants shall make all payments required by this Paragraph in the manner described in Paragraph 53.

#### **XVII. INDEMNIFICATION AND INSURANCE**

56. a. The United States does not assume any liability by entering into this agreement or by virtue of any designation of Settling Defendants as EPA's authorized representatives under Section 104(e) of CERCLA. Settling Defendants shall indemnify, save and hold harmless the United States and its officials,

agents, employees, contractors, subcontractors, or representatives for or from any and all claims or causes of action arising from, or on account of, negligent or other wrongful acts or omissions of Settling Defendants, their officers, directors, employees, agents, contractors, subcontractors, and any persons acting on their behalf or under their control, in carrying out activities pursuant to this Consent Decree, including, but not limited to, any claims arising from any designation of Settling Defendants as EPA's authorized representatives under Section 104(e) of CERCLA. Further, the Settling Defendants agree to pay the United States all costs it incurs including, but not limited to, attorneys fees and other expenses of litigation and settlement arising from, or on account of, claims made against the United States based on negligent or other wrongful acts or omissions of Settling Defendants, their officers, directors, employees, agents, contractors, subcontractors, and any persons acting on their behalf or under their control, in carrying out activities pursuant to this Consent Decree. The United States shall not be held out as a party to any contract entered into by or on behalf of Settling Defendants in carrying out activities pursuant to this Consent Decree. Neither the Settling Defendants nor any such contractor shall be considered an agent of the United States.

b. The United States shall give Settling Defendants notice of any claim for which the United States plans to seek indemnification pursuant to Paragraph 56.a., and shall consult

with Settling Defendants prior to settling such claim.

57. Settling Defendants waive all claims against the United States for damages or reimbursement or for set-off of any payments made or to be made to the United States, arising from or on account of any contract, agreement, or arrangement between any one or more of Settling Defendants and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays. In addition, Settling Defendants shall indemnify and hold harmless the United States with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between any one or more of Settling Defendants and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays.

58. No later than 15 days before commencing any on-site Work, Settling Defendants shall secure, and shall maintain until the first anniversary of EPA's Certification of Remedial Action pursuant to Paragraph 48 of Section XIV (Certification of Completion) comprehensive general liability insurance with limits of one half million dollars, combined single limit, and automobile liability insurance with limits of one half million dollars, combined single limit, naming the United States as an additional insured. In addition, for the duration of this Consent Decree, Settling Defendants shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all

applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of Settling Defendants in furtherance of this Consent Decree. Prior to commencement of the Work under this Consent Decree, Settling Defendants shall provide to EPA and the State certificates of such insurance and a copy of each insurance policy. Settling Defendants shall resubmit such certificates and copies of policies each year on the anniversary of the effective date of this Consent Decree. If Settling Defendants demonstrate by evidence satisfactory to EPA and the State that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering the same risks but in a lesser amount, then, with respect to that contractor or subcontractor, Settling Defendants need provide only that portion of the insurance described above which is not maintained by the contractor or subcontractor.

#### XVIII. FORCE MAJEURE

59. "Force majeure," for purposes of this Consent Decree, is defined as any event arising from causes beyond the control of the Settling Defendants, of any entity controlled by Settling Defendants, or of Settling Defendants' contractors, that delays or prevents the performance of any obligation under this Consent Decree despite Settling Defendants' best efforts to fulfill the obligation. The requirement that the Settling Defendants exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any potential force majeure event and

best efforts to address the effects of any potential force majeure event (1) as it is occurring and (2) following the potential force majeure event, such that the delay is minimized to the greatest extent possible. "Force Majeure" does not include financial inability to complete the Work or a failure to attain the Performance Standards.

60. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Decree, whether or not caused by a force majeure event, the Settling Defendants shall notify orally EPA's Project Coordinator or, in his or her absence, EPA's Alternate Project Coordinator or, in the event both of EPA's designated representatives are unavailable, the Director of the Hazardous Waste Management Division, EPA Region 5, within 48 hours of when Settling Defendants first knew that the event might cause a delay. Within 5 days thereafter, Settling Defendants shall provide in writing to EPA and the State an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; the Settling Defendants' rationale for attributing such delay to a force majeure event if they intend to assert such a claim; and a statement as to whether, in the opinion of the Settling Defendants, such event may cause or contribute to an endangerment to public health, welfare or the environment. The Settling Defendants shall

include with any notice all available documentation supporting their claim that the delay was attributable to a force majeure. Failure to comply with the above requirements shall preclude Settling Defendants from asserting any claim of force majeure for that event for the period of time of such failure to comply, and for any additional delay caused by such failure. Settling Defendants shall be deemed to know of any circumstance of which Settling Defendants, any entity controlled by Settling Defendants, or Settling Defendants' contractors knew or should have known.

61. If EPA, after a reasonable opportunity for review and comment by the State, agrees that the delay or anticipated delay is attributable to a force majeure event, the time for performance of the obligations under this Consent Decree that are affected by the force majeure event will be extended by EPA, after a reasonable opportunity for review and comment by the State, for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the force majeure event shall not, of itself, extend the time for performance of any other obligation. If EPA, after a reasonable opportunity for review and comment by the State, does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, EPA will notify the Settling Defendants in writing of its decision. If EPA, after a reasonable opportunity for review and comment by the State, agrees that the delay is attributable to a force majeure

event, EPA will notify the Settling Defendants in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event.

62. If the Settling Defendants elect to invoke the dispute resolution procedures set forth in Section XIX (Dispute Resolution), they shall do so no later than 15 days after receipt of EPA's notice. In any such proceeding, Settling Defendants shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that best efforts were exercised to avoid and mitigate the effects of the delay, and that Settling Defendants complied with the requirements of Paragraphs 60 and 61, above. If Settling Defendants carry this burden, the delay at issue shall be deemed not to be a violation by Settling Defendants of the affected obligation of this Consent Decree identified to EPA and the Court.

#### **XIX. DISPUTE RESOLUTION**

63. Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes arising under or with respect to this Consent Decree. However, the procedures set forth in this Section shall not apply to actions by the United States to enforce obligations of the Settling Defendants that have not been disputed in accordance with this Section.

64. Any dispute which arises under or with respect to this Consent Decree shall in the first instance be the subject of informal negotiations between the parties to the dispute. The period for informal negotiations shall not exceed 20 days from the time the dispute arises, unless it is modified by written agreement of the parties to the dispute. The dispute shall be considered to have arisen when one party sends the other parties a written Notice of Dispute.

65. a. In the event that the parties cannot resolve a dispute by informal negotiations under the preceding Paragraph, then the position advanced by EPA shall be considered binding unless, within 10 days after the conclusion of the informal negotiation period, Settling Defendants invoke the formal dispute resolution procedures of this Section by serving on the United States a written Statement of Position on the matter in dispute, including, but not limited to, any factual data, analysis or opinion supporting that position and any supporting documentation relied upon by the Settling Defendants. The Statement of Position shall specify the Settling Defendants' position as to whether formal dispute resolution should proceed under Paragraph 66 or Paragraph 67.

b. Within fourteen (14) days after receipt of Settling Defendants' Statement of Position, EPA will serve on Settling Defendants its Statement of Position, including, but not limited to, any factual data, analysis, or opinion supporting that position and all supporting documentation relied upon by EPA.

EPA's Statement of Position shall include a statement as to whether formal dispute resolution should proceed under Paragraph 66 or 67. Within 5 days after receipt of EPA's Statement of Position, Settling Defendants may submit a Reply.

c. If there is disagreement between EPA and the Settling Defendants as to whether dispute resolution should proceed under Paragraph 66 or 67, the parties to the dispute shall follow the procedures set forth in the paragraph determined by EPA to be applicable. However, if the Settling Defendants ultimately appeal to the Court to resolve the dispute, the Court shall determine which paragraph is applicable in accordance with the standards of applicability set forth in Paragraphs 66 and 67.

66. Formal dispute resolution for disputes pertaining to the selection or adequacy of any response action and all other disputes that are accorded review on the administrative record under applicable principles of administrative law shall be conducted pursuant to the procedures set forth in this Paragraph. For purposes of this Paragraph, the adequacy of any response action includes, without limitation: (1) the adequacy or appropriateness of plans, procedures to implement plans, or any other items requiring approval by EPA under this Consent Decree; and (2) the adequacy of the performance of response actions taken pursuant to this Consent Decree. Nothing in this Consent Decree shall be construed to allow any dispute by Settling Defendants regarding the validity of the ROD's provisions.

a. An administrative record of the dispute shall be

maintained by EPA and shall contain all statements of position, including supporting documentation, submitted pursuant to this Section. Where appropriate, EPA may allow submission of supplemental statements of position by the parties to the dispute.

b. The Director of the Superfund Division, EPA Region 5, will issue a final administrative decision resolving the dispute based on the administrative record described in Paragraph 66.a. This decision shall be binding upon the Settling Defendants, subject only to the right to seek judicial review pursuant to Paragraph 66.c. and d.

c. Any administrative decision made by EPA pursuant to Paragraph 66.b. shall be reviewable by this Court, provided that a motion for judicial review of the decision is filed by the Settling Defendants with the Court and served on all Parties within 10 days of receipt of EPA's decision. The motion shall include a description of the matter in dispute, the efforts made by the parties to resolve it, the relief requested, and the schedule, if any, within which the dispute must be resolved to ensure orderly implementation of this Consent Decree. The United States may file a response to Settling Defendants' motion.

d. In proceedings on any dispute governed by this Paragraph, Settling Defendants shall have the burden of demonstrating that the decision of the Superfund Division Director is arbitrary and capricious or otherwise not in accordance with law. Judicial review of EPA's decision shall be

on the administrative record compiled pursuant to Paragraph 66.a.

67. Formal dispute resolution for disputes that neither pertain to the selection or adequacy of any response action nor are otherwise accorded review on the administrative record under applicable principles of administrative law, shall be governed by this Paragraph.

a. Following receipt of Settling Defendants' Statement of Position submitted pursuant to Paragraph 65, the Director of the Superfund Division, EPA Region 5, will issue a final decision resolving the dispute. The Superfund Division Director's decision shall be binding on the Settling Defendants unless, within 10 days of receipt of the decision, the Settling Defendants file with the Court and serve on the parties a motion for judicial review of the decision setting forth the matter in dispute, the efforts made by the parties to resolve it, the relief requested, and the schedule, if any, within which the dispute must be resolved to ensure orderly implementation of the Consent Decree. The United States may file a response to Settling Defendants' motion.

b. Notwithstanding Paragraph S of Section I (Background) of this Consent Decree, judicial review of any dispute governed by this Paragraph shall be governed by applicable principles of law.

68. The invocation of formal dispute resolution procedures under this Section shall not extend, postpone or affect in any way any obligation of the Settling Defendants under this Consent

Decree, not directly in dispute, unless EPA or the Court agrees otherwise. Stipulated penalties with respect to the disputed matter shall continue to accrue but payment shall be stayed pending resolution of the dispute as provided in Paragraph 77. Notwithstanding the stay of payment, stipulated penalties shall accrue from the first day of noncompliance with any applicable provision of this Consent Decree. In the event that the Settling Defendants do not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section XX (Stipulated Penalties).

**XX. STIPULATED PENALTIES**

69. Settling Defendants shall be liable for stipulated penalties in the amounts set forth in Paragraphs 70 and 71 to the United States for failure to comply with the requirements of this Consent Decree specified below, unless excused under Section XVIII (Force Majeure). "Compliance" by Settling Defendants shall include completion of the activities under this Consent Decree or any work plan or other plan approved under this Consent Decree identified below in accordance with all applicable requirements of law, this Consent Decree, the SOW, and any plans or other documents approved by EPA pursuant to this Consent Decree and within the specified time schedules established by and approved under this Consent Decree.

70. a. The following stipulated penalties shall accrue per violation per day for any noncompliance identified in Subparagraph b:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$1,375 per day	Day 1-7
\$2,750 per day	Day 8-30
\$4,375 per day	Day 31-60
\$7,500 per day	After 60 days

b. Failure to implement the following activities pursuant to the schedules set forth in the SOW and this Consent Decree shall subject Settling Defendants to stipulated penalties: submission of the RD Work Plan, completion of groundwater monitoring wells, sampling and monitoring groundwater, and acquiring necessary access.

71. The following stipulated penalties shall accrue per violation per day for failure to submit timely or adequate groundwater monitoring reports or other written documents pursuant to Paragraphs 11 and 12:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$625 per day	Day 1-7
\$1,250 per day	Day 8-30
\$2,375 per day	Day 31-60
\$4,500 per day	After 60 days

72. In the event that EPA assumes performance of a portion or all of the Work pursuant to Paragraph 85 of Section XXI (Covenants Not to Sue by Plaintiff), Settling Defendants shall be liable for a stipulated penalty in the amount of \$100,000.

73. All penalties shall begin to accrue on the day after

the complete performance is due or the day a violation occurs, and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. However, stipulated penalties shall not accrue: (1) with respect to a deficient submission under Section XI (EPA Approval of Plans and Other Submissions), during the period, if any, beginning on the 15th day after EPA's receipt of such submission until the date that EPA notifies Settling Defendants of any deficiency; (2) with respect to a decision by the Director of the Superfund Division, EPA Region 5, under Paragraph 66.b. or 67.a. of Section XIX (Dispute Resolution), during the period, if any, beginning on the 7th day after the date that Settling Defendants' reply to EPA's Statement of Position is received until the date that the Director issues a final decision regarding such dispute; or (3) with respect to judicial review by this Court of any dispute under Section XIX (Dispute Resolution), during the period, if any, beginning on the 15th day after the Court's receipt of the final submission regarding the dispute until the date that the Court issues a final decision regarding such dispute. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Consent Decree.

74. Following EPA's determination that Settling Defendants have failed to comply with a requirement of this Consent Decree, EPA may give Settling Defendants written notification of the same and describe the noncompliance. EPA may send the Settling

Defendants a written demand for the payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether EPA has notified the Settling Defendants of a violation.

75. All penalties accruing under this Section shall be due and payable to the United States within 30 days of the Settling Defendants' receipt from EPA of a demand for payment of the penalties, unless Settling Defendants invoke the Dispute Resolution procedures under Section XIX (Dispute Resolution). All payments to the United States under this Section shall be paid by certified or cashier's check made payable to "EPA Hazardous Substances Superfund," shall be mailed to U.S. EPA, Superfund Accounting, P.O. Box 70753, Chicago, Illinois 60673, shall indicate that the payment is for stipulated penalties, and shall reference the EPA Region and Site/Spill ID #05-C4, the DOJ Case Number 90-11-2-1107, and the name and address of the party making payment. Copies of check(s) paid pursuant to this Section, and any accompanying transmittal letter(s), shall be sent to the United States as provided in Section XXVI (Notices and Submissions).

76. The payment of penalties shall not alter in any way Settling Defendants' obligation to complete the performance of the Work required under this Consent Decree.

77. Penalties shall continue to accrue as provided in Paragraph 73 during any dispute resolution period, but need not be paid until the following:

a. If the dispute is resolved by agreement or by a decision of EPA that is not appealed to this Court, accrued penalties determined to be owing shall be paid to EPA within 15 days of the agreement or the receipt of EPA's decision or order;

b. If the dispute is appealed to this Court and the United States prevails in whole or in part, Settling Defendants shall pay all accrued penalties determined by the Court to be owed to EPA within 60 days of receipt of the Court's decision or order, except as provided in Subparagraph c below;

c. If the District Court's decision is appealed by any Party, Settling Defendants shall pay all accrued penalties determined by the District Court to be owing to the United States into an interest-bearing escrow account within 60 days of receipt of the Court's decision or order. Penalties shall be paid into this account as they continue to accrue, at least every 60 days. Within 15 days of receipt of the final appellate court decision, the escrow agent shall pay the balance of the account to EPA or to Settling Defendants to the extent that they prevail.

78. a. If Settling Defendants fail to pay stipulated penalties when due, the United States may institute proceedings to collect the penalties, as well as interest. Settling Defendants shall pay interest on the unpaid balance, which shall begin to accrue on the date of demand made pursuant to Paragraph 74.

b. Nothing in this Consent Decree shall be construed as prohibiting, altering, or in any way limiting the ability of

the United States to seek any other remedies or sanctions available by virtue of Settling Defendants' violation of this Decree or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Section 122(1) of CERCLA. Provided, however, that the United States shall not seek civil penalties pursuant to Section 122(1) of CERCLA for any violation for which a stipulated penalty is provided herein, except in the case of a willful violation of the Consent Decree.

79. Notwithstanding any other provision of this Section, the United States may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Consent Decree.

#### **XXI. COVENANTS NOT TO SUE BY PLAINTIFF**

80. In consideration of the actions that will be performed and the payments that will be made by the Settling Defendants under the terms of the Consent Decree, and except as specifically provided in Paragraphs 82, 83, and 85 of this Section, the United States covenants not to sue or to take administrative action against Settling Defendants pursuant to Sections 106 and 107(a) of CERCLA relating to the Site. Except with respect to future liability, these covenants not to sue shall take effect upon the receipt by EPA of the payments required by Paragraph 52 of Section XVI (Reimbursement of Response Costs). With respect to future liability, these covenants not to sue shall take effect upon Certification of Completion of Remedial Action by EPA

pursuant to Paragraph 48 of Section XIV (Certification of Completion of Remedial Action). These covenants not to sue are conditioned upon the satisfactory performance by Settling Defendants of their obligations under this Consent Decree. These covenants not to sue extend only to the Settling Defendants and do not extend to any other person.

**81. United States' Pre-certification reservations.**

Notwithstanding any other provision of this Consent Decree, the United States reserves, and this Consent Decree is without prejudice to, the right to institute proceedings in this action or in a new action, or to issue an administrative order seeking to compel Settling Defendants (1) to perform further response actions relating to the Site or (2) to reimburse the United States for additional costs of response if, prior to Certification of Completion of the Remedial Action:

(i) conditions at the Site, previously unknown to EPA, are discovered, or

(ii) information, previously unknown to EPA, is received, in whole or in part,

and these previously unknown conditions or information together with any other relevant information indicates that the Remedial Action is not protective of human health or the environment.

**82. United States' Post-certification reservations.**

Notwithstanding any other provision of this Consent Decree, the United States reserves, and this Consent Decree is without prejudice to, the right to institute proceedings in this action

or in a new action, or to issue an administrative order seeking to compel Settling Defendants (1) to perform further response actions relating to the Site or (2) to reimburse the United States for additional costs of response if, subsequent to Certification of Completion of the Remedial Action:

(i) conditions at the Site, previously unknown to EPA, are discovered, or

(ii) information, previously unknown to EPA, is received, in whole or in part, and these previously unknown conditions or this information together with other relevant information indicate that the Remedial Action is not protective of human health or the environment.

83. For purposes of Paragraph 81, the information and the conditions known to EPA shall include only that information and those conditions known to EPA as of the date the ROD was signed and set forth in the Record of Decision for the Site and the administrative record supporting the Record of Decision. For purposes of Paragraph 82, the information and the conditions known to EPA shall include only that information and those conditions known to EPA as of the date of Certification of Completion of the Remedial Action and set forth in the Record of Decision, the administrative record supporting the Record of Decision, the post-ROD administrative record, or in any information received by EPA pursuant to the requirements of this Consent Decree prior to Certification of Completion of the

Remedial Action.

84. General reservations of rights. The covenants not to sue set forth above do not pertain to any matters other than those expressly specified in Paragraph 80. The United States reserves, and this Consent Decree is without prejudice to, all rights against Settling Defendants with respect to all other matters, including but not limited to, the following:

(1) claims based on a failure by Settling Defendants to meet a requirement of this Consent Decree, including any failure to implement the Work whether or not due to a Force Majeure event;

(2) liability arising from the past, present, or future disposal, release, or threat of release of Waste Materials outside of Site, except for the natural migration of Waste Materials disposed of within Site;

(3) liability for future disposal of Waste Material at the Site, other than as provided in the ROD, the Work, or otherwise ordered by EPA;

(4) liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;

(5) criminal liability;

(6) liability for violations of federal or state law which occur during or after implementation of the Remedial Action; and

(7) liability, prior to Certification of Completion of the Remedial Action, for additional response actions that EPA

determines are necessary to achieve Performance Standards, but that cannot be required pursuant to Paragraph 14 (Modification of the SOW or Related Work Plans).

85. Work Takeover In the event EPA determines that Settling Defendants have ceased implementation of any portion of the Work, are seriously or repeatedly deficient or late in their performance of the Work, or are implementing the Work in a manner which may cause an endangerment to human health or the environment, EPA may assume the performance of all or any portions of the Work as EPA determines necessary. Settling Defendants may invoke the procedures set forth in Section XIX (Dispute Resolution), Paragraph 66, to dispute EPA's determination that takeover of the Work is warranted under this Paragraph. Costs incurred by the United States in performing the Work pursuant to this Paragraph shall be considered Future Response Costs that Settling Defendants shall pay pursuant to Section XVI (Reimbursement of Response Costs).

86. Notwithstanding any other provision of this Consent Decree, the United States retains all authority and reserves all rights to take any and all response actions authorized by law. Except as otherwise provided in this Consent Decree, Settling Defendants also reserve any defenses available to them with respect to such actions.

#### XXII. COVENANTS BY SETTLING DEFENDANTS

87. Covenant Not to Sue. Subject to the reservations in Paragraph 88, Settling Defendants hereby covenant not to sue and

agree not to assert any claims or causes of action against the United States with respect to the Site or this Consent Decree, including, but not limited to:

a. any direct or indirect claim for reimbursement from the Hazardous Substance Superfund (established pursuant to the Internal Revenue Code, 26 U.S.C. § 9507) through CERCLA Sections 106(b)(2), 107, 111, 112, 113 or any other provision of law;

b. any claims against the United States, including any department, agency or instrumentality of the United States under CERCLA Sections 107 or 113 related to the Site, or

c. any claims arising out of response activities at the Site, including claims based on EPA's selection of response actions, oversight of response activities or approval of plans for such activities.

88. The Settling Defendants reserve, and this Consent Decree is without prejudice to, (1) claims against the United States Department of the Navy in accordance with the settlement agreements entered into between the United States of America and the Auto Ion Litigation Group on or about December 15, 1993; or (2) claims against the United States, subject to the provisions of Chapter 171 of Title 28 of the United States Code, for money damages for injury or loss of property or personal injury or death caused by the negligent or wrongful act or omission of any employee of the United States while acting within the scope of his office or employment under circumstances where the United States, if a private person, would be liable to the claimant in

accordance with the law of the place where the act or omission occurred. However, any such claim shall not include a claim for any damages caused, in whole or in part, by the act or omission of any person, including any contractor, who is not a federal employee as that term is defined in 28 U.S.C. § 2671; nor shall any such claim include a claim based on EPA's selection of response actions, or the oversight or approval of the Settling Defendants' plans or activities. The foregoing applies only to claims which are brought pursuant to any statute other than CERCLA and for which the waiver of sovereign immunity is found in a statute other than CERCLA.

89. Nothing in this Consent Decree shall be deemed to constitute preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

90. Settling Defendants agree to waive all claims or causes of action that they may have for all matters relating to the Site, including for contribution, against the following persons: any person (i) whose liability to Settling Defendants with respect to the Site is based solely on CERCLA § 107(a)(3) or (4), and (ii) who arranged for the disposal, treatment, or transport for disposal or treatment, or accepted for transport for disposal or treatment, of 55 gallons or less of liquid materials containing hazardous substances, or 100 pounds or less of solid materials containing hazardous substances, except where EPA has determined that such material contributed or could contribute

significantly to the costs of response at the Site.

**XXIII. EFFECT OF SETTLEMENT; CONTRIBUTION PROTECTION**

91. Nothing in this Consent Decree shall be construed to create any rights in, or grant any cause of action to, any person not a Party to this Consent Decree. The preceding sentence shall not be construed to waive or nullify any rights that any person not a signatory to this decree may have under applicable law. Each of the Parties expressly reserves any and all rights (including, but not limited to, any right to contribution), defenses, claims, demands, and causes of action which each Party may have with respect to any matter, transaction, or occurrence relating in any way to the Site against any person not a Party hereto.

92. The Parties agree, and by entering this Consent Decree this Court finds, that the Settling Defendants are entitled, as of the effective date of this Consent Decree, to protection from contribution actions or claims as provided by CERCLA Section 113(f)(2), 42 U.S.C. § 9613(f)(2) for matters addressed in this Consent Decree. The "matters addressed in this Consent Decree," as that term is used in this Paragraph, means all response actions taken or to be taken and all response costs including Past Response Costs, Interim Response Costs, and Future Response Costs, incurred or to be incurred with respect to contamination at or from the Site.

93. The Settling Defendants agree that with respect to any suit or claim for contribution brought by them for matters

related to this Consent Decree they will notify the United States in writing no later than 60 days prior to the initiation of such suit or claim.

94. The Settling Defendants also agree that with respect to any suit or claim for contribution brought against them for matters related to this Consent Decree they will notify in writing the United States and the State within 10 days of service of the complaint on them. In addition, Settling Defendants shall notify the United States and the State within 10 days of service or receipt of any Motion for Summary Judgment and within 10 days of receipt of any order from a court setting a case for trial.

95. In any subsequent administrative or judicial proceeding initiated by the United States for injunctive relief, recovery of response costs, or other appropriate relief relating to the Site, Settling Defendants shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by the United States in the subsequent proceeding were or should have been brought in the instant case; provided, however, that nothing in this Paragraph affects the enforceability of the covenants not to sue set forth in Section XXI (Covenants Not to Sue by Plaintiff).

#### XXIV. ACCESS TO INFORMATION

96. Settling Defendants shall provide to EPA and the State, upon request, copies of all documents and information within

their possession or control or that of their contractors or agents relating to activities at the Site or to the implementation of this Consent Decree, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. Settling Defendants shall also make available to EPA and the State, for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

97. a. Settling Defendants may assert business confidentiality claims covering part or all of the documents or information submitted to Plaintiff under this Consent Decree to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Documents or information determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when they are submitted to EPA and the State, or if EPA has notified Settling Defendants that the documents or information are not confidential under the standards of Section 104(e)(7) of CERCLA, the public may be given access to such documents or information without further notice to Settling Defendants.

b. The Settling Defendants may assert that certain

documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If the Settling Defendants assert such a privilege in lieu of providing documents, they shall provide the Plaintiff with the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of the author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the contents of the document, record, or information; and (6) the privilege asserted by Settling Defendants. However, no documents, reports or other information created or generated pursuant to the requirements of the Consent Decree shall be withheld on the grounds that they are privileged.

98. No claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other documents or information evidencing conditions at or around the Site.

#### **XXV. RETENTION OF RECORDS**

99. Until 5 years after the Settling Defendants' receipt of EPA's notification pursuant to Paragraph 49 of Section XIV (Certification of Completion of the Work), each Settling Defendant shall preserve and retain all records and documents now in its possession or control or which come into its possession or control that relate in any manner to the performance of the Work

or liability of any person for response actions conducted and to be conducted at the Site, regardless of any corporate retention policy to the contrary. Until 5 years after the Settling Defendants' receipt of EPA's notification pursuant to Paragraph 49 of Section XIV (Certification of Completion of the Work), Settling Defendants shall also instruct their contractors and agents to preserve all documents, records, and information of whatever kind, nature or description relating to the performance of the Work, or to send them to Settling Defendants for storage in a central repository.

100. At the conclusion of this document retention period, Settling Defendants shall notify the United States and the State at least 90 days prior to the destruction of any such records or documents, and, upon request by the United States or the State, Settling Defendants shall deliver any such records or documents to EPA or the State. The Settling Defendants may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If the Settling Defendants assert such a privilege, they shall provide the Plaintiff with the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of the author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the subject of the document, record, or information; and (6) the privilege asserted

by Settling Defendants. However, no documents, reports or other information created or generated pursuant to the requirements of the Consent Decree shall be withheld on the grounds that they are privileged.

101. Each Settling Defendant hereby certifies individually that, to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information relating to its potential liability regarding the Site since notification of potential liability by the United States or the State or the filing of suit against it regarding the Site and that it has fully complied with any and all EPA requests for information pursuant to Section 104(e) and 122(e) of CERCLA, 42 U.S.C. 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. 6927.

#### **XXVI. NOTICES AND SUBMISSIONS**

102. Whenever, under the terms of this Consent Decree, written notice is required to be given or a report or other document is required to be sent by one Party to another, it shall be directed to the individuals at the addresses specified below, unless those individuals or their successors give notice of a change to the other Parties in writing. All notices and submissions shall be considered effective upon receipt, unless otherwise provided. Written notice as specified herein shall constitute complete satisfaction of any written notice requirement of the Consent Decree with respect to the United

States, EPA, the State, and the Settling Defendants,  
respectively.

As to the United States:

Chief, Environmental Enforcement Section  
Environment and Natural Resources Division  
U.S. Department of Justice  
P.O. Box 7611  
Ben Franklin Station  
Washington, D.C. 20044  
Re: DJ # 90-11-2-1107

and

Director, Superfund Division  
United States Environmental Protection Agency  
Region 5  
77 W. Jackson Boulevard  
Chicago, Illinois 60604

As to EPA:

Michael McAteer  
EPA Project Coordinator  
United States Environmental Protection Agency  
Region 5 (SR-6J)  
77 W. Jackson Boulevard  
Chicago, Illinois 60604

(EPA Project Coordinator receives 2 copies of technical documents)

Nancy-Ellen Zusman  
Assistant Regional Counsel  
United States Environmental Protection Agency  
Region 5 (C-29A)  
77 W. Jackson Boulevard  
Chicago, Illinois 60604

As to the State:

Mary Shaffer  
State Project Coordinator  
Environmental Response Division  
Michigan Department of Natural Resources  
301 S. Capital  
Lansing, Michigan 48909

**As to the Settling Defendants:**

**David W. Munn  
Eastman & Smith  
One SeaGate, 24th Floor  
P.O. Box 10032  
Toledo, Ohio 43699-0032**

**Settling Defendants' Project Coordinator:**

**Julian Hayward, P. Eng.  
Conestoga-Rovers & Associates Limited  
651 Colby Drive  
Waterloo, Ontario, Canada N2V 1C2**

#### **XXVII. EFFECTIVE DATE**

**103. The effective date of this Consent Decree shall be the date upon which this Consent Decree is entered by the Court, except as otherwise provided herein.**

#### **XXVIII. RETENTION OF JURISDICTION**

**104. This Court retains jurisdiction over both the subject matter of this Consent Decree and the Settling Defendants for the duration of the performance of the terms and provisions of this Consent Decree for the purpose of enabling any of the Parties to apply to the Court at any time for such further order, direction, and relief as may be necessary or appropriate for the construction or modification of this Consent Decree, or to effectuate or enforce compliance with its terms, or to resolve disputes in accordance with Section XIX (Dispute Resolution) hereof.**

#### **XXIX. APPENDICES**

**105. The following appendices are attached to and**

incorporated into this Consent Decree:

"Appendix A" is the ROD.

"Appendix B" is the SOW.

"Appendix C" is the description and/or map of the Site.

"Appendix D" is the complete list of the Settling Defendants.

"Appendix E" is the copy of the deed restrictions.

XXX. COMMUNITY RELATIONS

106. Settling Defendants shall propose to EPA and the State their participation in the community relations plan to be developed by EPA. EPA will determine the appropriate role for the Settling Defendants under the Plan. Settling Defendants shall also cooperate with EPA and the State in providing information regarding the Work to the public. As requested by EPA, Settling Defendants shall participate in the preparation of such information for dissemination to the public and in public meetings which may be held or sponsored by EPA or the State to explain activities at or relating to the Site.

XXXI. MODIFICATION

107. Schedules specified in this Consent Decree for completion of the Work may be modified by agreement of EPA and the Settling Defendants. All such modifications shall be made in writing.

108. Except as provided in Paragraph 14 ("Modification of the SOW or related Work Plans"), no material modifications shall be made to the SOW without written notification to and written approval of the United States, Settling Defendants, and the

Court. Prior to providing its approval to any modification, the United States will provide the State with a reasonable opportunity to review and comment on the proposed modification. Modifications to the SOW that do not materially alter that document may be made by written agreement between EPA, after providing the State with a reasonable opportunity to review and comment on the proposed modification, and the Settling Defendants.

109. Nothing in this Decree shall be deemed to alter the Court's power to enforce, supervise or approve modifications to this Consent Decree.

**XXXII. LODGING AND OPPORTUNITY FOR PUBLIC COMMENT**

110. This Consent Decree shall be lodged with the Court for a period of not less than thirty (30) days for public notice and comment in accordance with Section 122(d)(2) of CERCLA, 42 U.S.C. § 9622(d)(2), and 28 C.F.R. § 50.7. The United States reserves the right to withdraw or withhold its consent if the comments regarding the Consent Decree disclose facts or considerations which indicate that the Consent Decree is inappropriate, improper, or inadequate. Settling Defendants consent to the entry of this Consent Decree without further notice.

111. If for any reason the Court should decline to approve this Consent Decree in the form presented, this agreement is voidable at the sole discretion of any Party and the terms of the agreement may not be used as evidence in any litigation between the Parties.

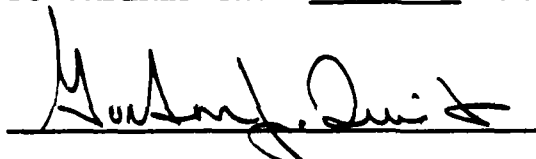
XXXIII. SIGNATORIES/SERVICE

112. Each undersigned representative of a Settling Defendant to this Consent Decree and the Chief of the Environment Enforcement Section of the Environment and Natural Resources Division of the Department of Justice certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind such Party to this document.


113. Each Settling Defendant hereby agrees not to oppose entry of this Consent Decree by this Court or to challenge any provision of this Consent Decree unless the United States has notified the Settling Defendants in writing that it no longer supports entry of the Consent Decree.

114. Each Settling Defendant shall identify, on the attached signature page, the name, address and telephone number of an agent who is authorized to accept service of process by mail on behalf of that Party with respect to all matters arising under or relating to this Consent Decree. Settling Defendants hereby agree to accept service in that manner and to waive the formal service requirements set forth in Rule 4 of the Federal Rules of Civil Procedure and any applicable local rules of this Court, including, but not limited to, service of a summons.

SO ORDERED THIS 12<sup>th</sup> DAY OF March, 1997.




United States District Judge


  
3/13/97

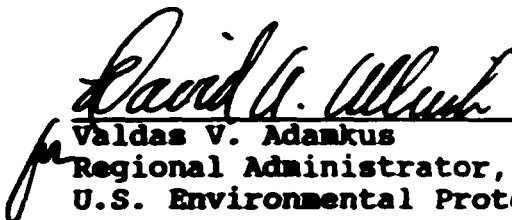
THE UNDERSIGNED PARTIES enter into this Consent Decree in the matter of United States v. Sheller Globe Corporation et al., relating to the Auto Ion Superfund Site (Operable Unit 2).


FOR THE UNITED STATES OF AMERICA

Date: 11/21/96

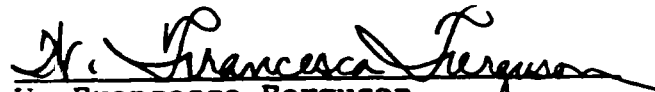
  
 Bruce S. Gelber  
 Deputy Chief  
 Environment Enforcement Section  
 Environment and Natural Resources  
 Division  
 U.S. Department of Justice  
 Washington, D.C. 20530

  
 Esperanza Anderson  
 Environmental Enforcement Section  
 Environment and Natural Resources  
 Division  
 U.S. Department of Justice  
 Washington, D.C. 20530

  
 Valdas V. Adamkus  
 Regional Administrator, Region 5  
 U.S. Environmental Protection  
 Agency (R-19J)  
 77 W. Jackson Boulevard  
 Chicago, Illinois 60604

  
 Nancy-Ellen Zusman  
 Assistant Regional Counsel  
 U.S. Environmental Protection  
 Agency (CM-29A)  
 Region 5  
 77 W. Jackson Boulevard  
 Chicago, Illinois 60604

MICHAEL H. DETTNER  
 United States Attorney  
 Western District of Michigan

  
 W. Francesca Ferguson  
 Assistant United States Attorney  
 330 Ionia, N.W., Suite 501  
 Grand Rapids, Michigan 49503  
 (616) 456-2404

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR Sheller Globe Corporation <sup>\*/</sup>

SIGNATURE 

Date: September 11, 1996

Name -- Michael O. Brown

Please Type Title -- Vice. Pres., General Counsel

Address -- 5200 Auto Club Drive  
Dearborn, MI 48126

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Peggy J. Webbe

Title: Senior Attorney

Address: 5200 Auto Club Drive

Dearborn, MI 48126

Tel. Number: (313) 240-3691

\_\_\_\_\_  
\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

D. L. Lawrence

FOR National-Standard Company \*/

Date: September 9, 1996  
Name -- D. L. Lawrence  
Please Type Title -- Treasurer  
Address -- 1618 Terminal Road  
Niles, MI 49120

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: D. L. Lawrence

Title: Treasurer

Address: 1618 Terminal Road  
Niles, MI 49120

Tel. Number: 616-683-8100

\_\_\_\_\_  
\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR PPG Industries, Inc. \*/

Date: \_\_\_\_  
Name --  
Please Type Title --  
Address --

[Please Type]

Date: September 9, 1996

Name: 

Title: Director of Production, OEM

Address: One PPG Place, Pittsburgh, PA 15272

Tel. Number: (412) 434-3447

---

Agent Authorized to Accept Service on Behalf of Above-signed Party:

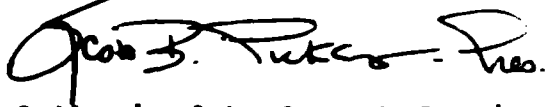
Name: Joseph M. Karas  
Title: Assistant Counsel  
Address: One PPG Place, Pittsburgh, PA 15272  
Phone: 412/434-2415 FAX: 412/434-4292

\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

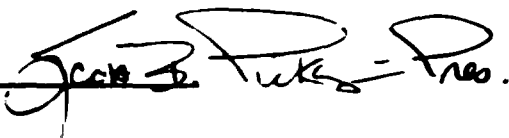
FOR Pickens Plating Inc. \*/

Date: September 5, 1996  
 Name -- Scott B. Pickens  
 Please Type Title -- President  
 Address -- 1000 Industrial Avenue  
Albion MI 49224

 Scott B. Pickens - Pres.

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Scott B. Pickens  Scott B. Pickens - Pres.

Title: President

Address: 1000 Industrial Avenue  
Albion MI 49224

Tel. Number: 517 629-4835

\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

Valley Industries Co.  
 FOR Quincy Products Division \*/  
 BY: Jack D. Osborn, Chairman & CEO

Date: September 10, 1996  
 Name -- Jack D. Osborn  
 Please Type Title -- Chairman & CEO  
 Address -- 8280 Montgomery Rd., Suite 206  
Cincinnati, Ohio 45236

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: A. Christian Worrell III  
Graydon, Head, & Ritchey  
 Title: Attorneys At Law  
1900 Fifth Third Center  
511 Walnut Street  
 Address: Cincinnati, Ohio 45202  
 Tel. Number: (513) 621-6464  
 Fax Number: (513) 561-3836

\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

RHI Holdings, Inc. as successor in  
interest to Rex Chain Belt  
FOR Donald E. Miller \*/  
Vice President

Date: 7/4/91  
Name -- Donald E. Miller  
Please Type Title -- Vice President and Secretary  
Address -- 300 West Service Road  
Chantilly, VA 20151

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: B. Michael Hodge

Title: Assistant General Counsel

Address: 300 West Service Road, Chantilly, VA 20151

Tel. Number: (703) 478-5858

\*A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR SUNDSTRAND CORPORATION/ \*/  
RUBY MANUFACTURING

Date: September 11, 1996

Name -- William R. Coole *William R. Coole*

Please Type Title -- Assistant Secretary

Address -- 4949 Harrison Avenue  
Rockford, IL 61125

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: C.T. Corporation System

Title: \_\_\_\_\_

208 S. LaSalle Street  
Address: Chicago, IL 60604

Tel. Number: (312) 345-4328

---

\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).



FOR Shakespeare Company \*/

Date: September 4, 1996  
 Name: John J. Rangel  
 Please Type Title: Senior Vice President - Finance  
 Address: 4900 South Eastern Avenue, Suite 200  
Los Angeles, CA 90040

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: John J. Rangel

Title: Senior Vice President - Finance

K2, Inc. (formerly Anthony Industries, Inc.)  
 Address: 4900 South Eastern Avenue, Suite 200  
Los Angeles, CA 90040

Tel. Number: 213-724-2800

\_\_\_\_\_  
 \*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR MOEN INCORPORATED (F/K/A STANADYNE, INC.)

Date: September 9, 1996

Name -- Gary T. Gajewski

Please Type Title -- Vice President - Finance

Address -- Moen Incorporated

25300 Al Moen Drive

North Olmsted, OH 44070-8022

  
Agent Authorized to Accept Service on Behalf of Above-signed Party:

Gary T. Gajewski

[Please Type]

Name: Patrick Gordon

Title: Attorney-at-Law

Winston & Strawn

Address: 35 West Wacker Drive

Chicago, Illinois 60601

Tel. Number: (312) 558-7457

---

\*A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR Rhone-Poulenc, Inc. \*/  
 (Successor by merger to Stauffer Chemical Company)  
 By: John P. Donahue  
 Date: September 13, 1996  
 Name --  
 Please Type Title -- Vice President Legal Services and  
 Address -- Associate General Counsel  
 Rhone-Poulenc Inc.  
 CN 5266  
 Princeton, NJ 08543-5266

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Michael F. Reilly, Esq.

Title: Attorney, Stauffer Management Company

Address: P. O. Box 15438, Wilmington, DE 19850

Tel. Number: 302/886-3748

\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

Enthone-OMI Inc., - successor to UDYLITE

FOR

Richard P. Mueller \*/

Date: 10 September 96

Name -- Richard P. Mueller

Please Type Title -- Legal Counsel

Address -- Enthone OMI, Inc.

21441 Hoover Road

Warren, Michigan 48089

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Enthone-OMI Inc. - successor to UDYLITE

[Please Type]

Name: Richard P. Mueller

Title: Legal Counsel

Enthone-OMI, Inc. Legal Department

21441 Hoover Road

Address: Warren, Michigan 48089

Tel. Number: (810) 497-6892

\_\_\_\_\_  
\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

UNION TANK CAR COMPANY

FOR

*Mark J. Garrette* \*/

Date: September 9, 1996  
Name -- Mark J. Garrette  
Please Type Title -- Vice President  
Address -- Union Tank Car Company  
111 West Jackson Boulevard  
Chicago, Illinois 60604

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Patrick J. Allen

Title: Assistant General Counsel

225 West Washington Street  
Address: Chicago, Illinois 60606

Tel. Number: (312) 372-9500

\_\_\_\_\_  
\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR  DAYTON WALTHER \*/

Date: SEPTEMBER 6, 1996  
Name -- DAVID M. RYMPH  
Please Type Title -- SENIOR ENVIRONMENTAL MANAGER  
Address -- 12025 TECH CENTER DR.  
LIVONIA, MI 48150

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: DAVID M. RYMPH

Title: SENIOR ENVIRONMENTAL MANAGER

Address: 12025 TECH CENTER DR., LIVONIA, MI 48150

Tel. Number: 313-266-2677

\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR Unisys Corporation/ Vickers Corporation \*/ 

Date: 9/4/96

Name -- Ronald C. Anderson

Please Type Title -- Assistant Corporate Secretary

Address -- Unisys Corporation  
P.O. Box 500  
Blue Bell, PA 19424

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Aria A. Klees, Esq.

Title: Counsel, Environmental Health and Safety

Address: Unisys Corporation  
Township Line and Union Meeting Roads  
Blue Bell, PA 19424-0001 MS?C1SW19  
Tel. Number: (215) 986- 5169

---

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THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR Sealed Power \*/

Date: October 9, 1996  
 Name -- Robert L. Quintilliano  
 Please Type Title -- Manager, Environmental & Energy  
 Address -- SPX Corporation  
700 Terrace Point Drive  
Muskegon, MI 49443

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Robert L. Quintilliano

Robert L. Quintilliano

Title: Manager, Environmental & Energy

Address: SPX Corporation

700 Terrace Point Drive

Muskegon, MI 49443

Tel. Number: (616) 724-5413

\_\_\_\_\_  
 \*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v.  
Sheller Globe Corporation, et al. relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR: KEWAUNEE SCIENTIFIC CORPORATION

Date: October 9, 1996



---

D. Michael Parker  
Vice President, Finance/CFO  
P. O. Box 1842  
2700 West Front Street  
Statesville, NC 28687-1842

Agent Authorized to Accept Service on Behalf of Above-signed Party:

BELL, BOYD & LLOYD  
Bryan E. Keyt, Esq.  
Three First National Plaza  
70 West Madison Street  
Suite 3300  
Chicago, IL 60602-4207  
312/372-1121

•

Kenneth Thomson

\*

September 3, 1996

Kenneth O. Truman

**Vice President**

PO Box 914, 211 So. Lincoln St.  
Warsaw, IN. 46581-0914

1

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\_\_\_\_\_

\_\_\_\_\_

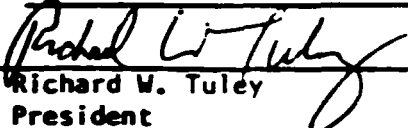
\_\_\_\_\_

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\_\_\_\_\_

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THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR Motor Wheel Corporation \*/  
By   
Richard W. Tuley  
Its President  
Motor Wheel Corporation  
2501 Woodlake Circle  
Okemos, MI 48864  
(517) 337-5701  
Date 9/5/96

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Neal T. Rountree

Title: Attorney

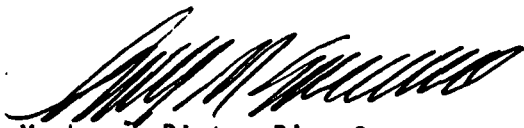
The Goodyear Tire & Rubber Company  
Address: 1144 East Market Street  
Akron, OH 44316-0001

Tel. Number: (330) 796-3737  
FAX (330) 796-8836

---

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THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

  
 FOR Muskegon Piston Ring Company, \*/  
 (a former division of Questor Corporation)  
 (n/k/a Spalding & Evenflo Inc.), n/k/a AE Goetze Inc.

Date: 7-10-96  
 Name -- Timothy M. Guerriero  
 Please Type Title -- Attorney  
 Address -- T&N Industries Inc., 777 E. Eisenhower Pkwy., Suite 600  
 Ann Arbor, MI 48108

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Timothy M. Guerriero

Title: Attorney

Address: T&N Industries Inc., 777 E. Eisenhower Pkwy., Suite 600  
Ann Arbor, MI 48108

Tel. Number: 313-663-6749

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THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR

CITY OF KALAMAZOO \*

BY

  
MARC A. OTTDate: September 17, 1996Name -- Marc A. OttPlease Type Title -- City ManagerAddress -- 241 West South Street  
Kalamazoo, MI 49007

Agent Authorized to Accept Service on Behalf of Above-signed Party:

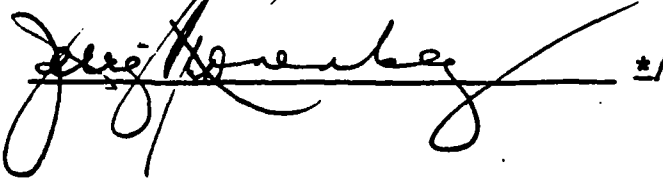
[Please Type]Name: Robert H. CinabroTitle: City AttorneyAddress: 234 West Cedar Street, Kalamazoo, MI 49007Tel. Number: 616-337-8185

\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR: **AMERACE CORPORATION**

By: ~~FOR~~

 \*/

Date: September 6, 1996  
 Name -- Jerry Kronenberg  
 Please Type Title -- Vice President-General Counsel  
 Address -- c/o Thomas & Betts Corporation  
1555 Lynnfield Road  
Memphis, Tennessee 38119

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Michael F. Rettig \*

Title: Corporate Counsel

Address: Thomas & Betts Corporation  
1555 Lynnfield Road  
Memphis, TN 38119

Tel. Number: 901/680-5936 Fax: 901/680-5960

With copy to: Grace E. Speights, Esq.  
Morgan, Lewis & Bockius  
1600 M Street, N.W.  
Washington, D.C. 20036  
202/467-7189 Fax: 202/467-7176

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THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Cperable Unit 2).

FOR



Date: 9/11/96

Name -- Joseph Jarzembowski

Please Type Title -- General Counsel, Plymouth Tube Company (for American Tubing Company)

Address -- 29W150 Warrenville Road  
P.O. Box 45  
Warrenville, IL 60555

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Steven J. Lemon

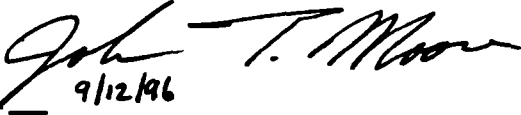
Jones & Lemon  
Title: Attorneys at Law

Address: 28 N. Bennett St.  
P.O. Box 805  
Geneve, IL 60134  
Tel. Number: 630 208-0805

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THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR ERICSSON INC., sucessor-in-interest to  
Anaconda Wire & Cable Co. \*/

  
Date: 9/12/96  
Name -- John T. Moore  
Please Type Title -- Associate General Counsel  
Address -- 1010 E. Arapaho Rd.  
Richardson, TX 75083

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Mary K. Sahs, Esq.

Title: \_\_\_\_\_

Address: 1700 Collier St., Austin, TX 78704

Tel. Number: 512/444-2185

\_\_\_\_\_  
\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR



\*/

President, Anderson Safeway Corp.  
a/k/a The Anderson Group, Inc.

Date: September 6, 1996  
Name - Barry T. Shapiro  
Please Type Title -- President  
Address -- 1533 N. Woodward, Ste. 240  
Bloomfield Hills, MI 48304

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: David W. Nurn  
Eastman & Smith

Title: Attorney

Address: P.O. Box 10032  
Toledo, OH 43699-0032

Tel. Number: (419)241-6000

\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR ANODIZED SPECIALISTS, INC.

Date: September 13, 1996

Name Richard G. DeBoer  
Please Type Title Treasurer

Address One Madison Avenue  
Cadillac, MI 49601



Agent Authorized to Accept Service on Behalf of Above-signed Party:

\_\_\_\_\_  
Name: Kenneth W. Vermeulen

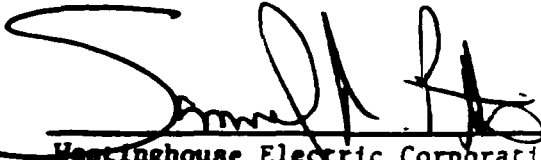
Title: Attorney

Address: 111 Lyon NW, 900 Old Kent Bank Bldg., Grand Rapids, MI 49503

Tel. Number: (616) 752-2166

\_\_\_\_\_  
\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR   
Westinghouse Electric Corporation \*1  
 9-10-96

Date: September 10, 1996  
 Name -- Samuel R. Pitts  
 Please Type Title -- Vice President  
 Address -- 11 Stanwix Street  
Pittsburgh PA 15222-1384

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Marlene W. Jackson Esq.

Title: Assistant General Counsel

Westinghouse Electric Corporation  
 Address: 11 Stanwix Street  
Pittsburgh, PA 15222-1384

Tel. Number: 412-642-5243

\*A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR XTEK INC. \*1

Date:                       
 Name -- James S. Schwab  
 Please Type Title -- PRESIDENT  
 Address --

XTEK INC.  
11451 READING ROAD  
CINCINNATI, OHIO 45241-5701

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name:                                     

Title:                                     


Address:                                     

Tel. Number:                                     

\*1A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the  
 matter of United States v. Sheller Globe Corporation, et al.,  
 relating to the Auto Ion Superfund Site (Operable Unit 2).  
 FKI Industries, Inc. - Faultless Caster Division  
 (Faultless Caster)

FOR BY:  \*/  
 Robert M. Miller, Vice President  
 Legal and Secretary

Date:    September   4  , 1996  
 Name -- Robert M. Miller  
 Please Type Title -- Vice President, Legal and Secretary  
 Address -- 425 Post Road  
 Fairfield, CT 06430-0970

Agent Authorized to Accept Service on Behalf of Above-signed  
 Party:

  [Please Type]  

Name: Richard W. Butler, Jr.  
 Attorney  
 Title: Varnum, Riddering, Schmidt & Howlett LLP  
Bridgewater Place, 333 Bridge, N.W.  
 Address: Grand Rapids, MI 49504  
 Tel. Number: (616) 336-6000

    
 \*/A separate signature page must be signed by each corporation,  
 individual or other legal entity that is settling with the United  
 States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR BRIDGESTONE/FIRESTONE, INC.

*\*/ Cheryl R. Johnson*

Date: September 12, 1996  
 Name -- Cheryl R. Johnson  
 Please Type Title -- Legal Assistant  
 Address -- 50 Century Blvd  
 Nashville, TN 37214

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Jane K. Murphy, Esq.

Title: Counsel for Bridgestone/Firestone, Inc.

Address: Jones, Day, Reavis & Pogue

77 West Wacker  
Chicago, IL 60601-1692

Tel. Number: 312/269-4239

\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR WHIRLPOOL CORPORATION \*/

*Robert T. Kenagy*  
 Date: September 12, 1996  
 Name -- Robert T. Kenagy  
 Please Type Title -- Associate General Counsel  
 Address -- WHIRLPOOL CORPORATION  
           2000 M-63  
           Benton Harbor, MI 49022

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Pamela L. Phillipi

Title: Legal Assistant

Address: WHIRLPOOL CORPORATION  
           2000 M-63 (Mail Drop 2200)  
           Benton Harbor, MI 49022

Tel. Number: 616-923-3008

\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR

  
Garwood (Dover) \*/Date: 9/6/96Name -- Robert G. KuhbachPlease Type Title -- Vice PresidentAddress -- Dover Corporation  
280 Park Avenue 38W  
New York, NY 10017

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]Name: Robert G. KuhbachTitle: V.P., General CounselAddress: Dover Corp., 280 Park Ave., 38W, New York, NY 10017Tel. Number: 212-922-1640

---

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THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

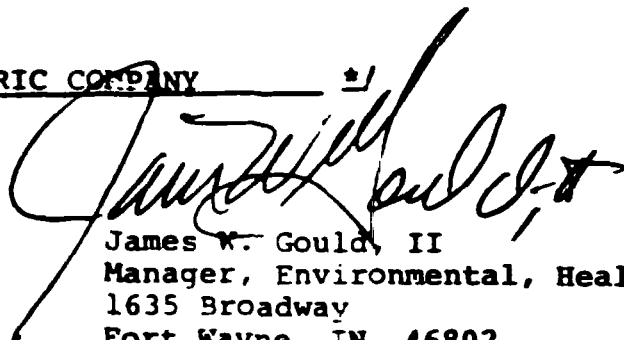
FOR GENERAL ELECTRIC COMPANY \*/

Date: 9/10/96

Name --

Please Type Title --

Address --

  
James W. Gould, II  
Manager, Environmental, Health & Safety  
1635 Broadway  
Fort Wayne, IN 46802

Agent Authorized to Accept Service on Behalf of Above-signed Party:

(Please Type)

Except for service of process to:

Name: Corporation Company

Name: Mathew S. Scherschel

Title: \_\_\_\_\_

Title: Counsel-Environmental  
& Regulatory Compliance

Address: 30600 Telegraph Road  
Bingham Farms, MI 48025

Address: 1635 Broadway  
Fort Wayne, IN 46802

Tel. Number: \_\_\_\_\_

Tel. Number: (219) 439-3288

\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR Gilbert Plating & Bumper Exchange, Inc.

*Irwin Gilbert*

Date: 9-5-96  
 Name -- Irwin Gilbert  
 Please Type Title -- President  
 Address -- 375 West Rich Street  
 Columbus, OH 43215

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Martin H. Lewis

Title: Counsel for Gilbert Plating & Bumper Exchange, Inc.

Arter & Hadden

Address: 10 West Broad Street, Columbus, OH 43215

Tel. Number: (614) 221-3155

15

**\*A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.**

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

Lear Plastics Corporation (f/k/a Lear Siegler, Inc. - Haas Division)

FOR BY Richard W. Butler Jr. \*/  
 Richard W. Butler, Jr.  
 Attorney for Lear Plastics Corporation

Date: September 10, 1996  
 Name -- Richard W. Butler, Jr.  
 Please Type Title -- Attorney for Lear Plastics Corporation  
 Address -- Varnum, Riddering, Schmidt & Howlett LLP  
 Bridgewater Place, 333 Bridge Street, N.W.  
 Grand Rapids, MI 49504

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Richard W. Butler, Jr.

Title: Attorney for Lear Plastics Corporation  
Varnum, Riddering, Schmidt & Howlett LLP  
Bridgewater Place, 333 Bridge Street, N.W.  
 Address: Grand Rapids, MI 49504

Tel. Number: (616) 336-6000

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THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

*AB Currie* 9/12/96

FOR

HARMAN AUTOMOTIVE, INC.

\*/

Date: September 12, 1996

Name -- Allan B. Currie Jr.

Please Type Title -- Corporate Manager, Environmental Affairs

Address -- Harvard Industries, Inc.

1999 Wildwood Ave.

Jackson, Michigan 49202

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: The Corporation Company

Title:

30600 Telegraph Road


Address: Bingham Farms, Michigan 48025

Tel. Number:

\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR

 \*/By: Hastings Manufacturing CompanyDate: 10 September 1996

Name -- Thomas Bellgraph

Please Type Title -- Treasurer

Address -- 325 N. Hanover Street  
Hastings, MI 49058

Agent Authorized to Accept Service on Behalf of Above-signed  
Party:

[Please Type]Name: James RuddockTitle: Environmental Coordinator325 N. Hanover Street  
Address: Hastings, MI 49058Tel. Number: 616/945-2491

\*/A separate signature page must be signed by each corporation,  
individual or other legal entity that is settling with the United  
States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR Textron Inc. (Homelite Division ~~Tex~~tron)

Date: 9/16/96  
 Name -- J. M. Schiff Jamieson M. Schiff  
 Please Type Title -- Environmental Counsel  
 Address -- Textron Inc.  
 40 Westminster Street  
 Providence, RI 02903

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Jamieson Schiff

Title: Environmental Counsel

Address: Textron Inc.

40 Westminster Street, Providence, RI 02903

Tel. Number: 401/457-2422

\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR

  
Indiana Steel & Wire

\*/

Date: September 13, 1996  
Name -- Michael L. Cioffi  
Please Type Title -- Authorized Agent  
Address -- One East Fourth Street  
Cincinnati, OH 45202

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Michael L. Cioffi

Title: Authorized Agent

Address: One East Fourth Street  
Cincinnati, OH 45202

Tel. Number: (513) 579-6616

\_\_\_\_\_  
\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR KTS Industries, Inc. \*/

Date: -- 9/6/96  
Name -- Brad M. Coombs  
Please Type Title -- President  
Address -- 508 Harrison St.  
Kalamazoo, Mich. 49007

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Brad Coombs

Title: President

Address: 508 Harrison St., Kalamazoo, MI. 49007

Tel. Number: (616) 345-7172

---

\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR Johnson Controls, Inc. \*/

By: [Signature]

Date: September 12, 1996

Name: Jerome D. Okarna

Please Type Title -- Assistant Secretary and Assistant General Counsel

Address -- 5757 North Green Bay Avenue, P.O. Box 591  
Milwaukee, WI 53201-0591

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Quarles & Brady

Title: Ronni M. Flannery, Esq.

Address: 411 East Wisconsin Avenue  
Milwaukee, WI 53202-4497

Tel. Number: (414) 277-5539

\_\_\_\_\_  
\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR Kawneer Company, Inc. \*/ *R.P. Wolf, Vice President*

Date: September 12, 1996  
 Name -- RP Wolf  
 Please Type Title -- Vice President  
 Address -- 5655 Peachtree Parkway  
Norcross, GA 30092-2812

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Bradley A. Hasten

Title: Senior Attorney

Address: 5655 Peachtree Parkway, Norcross, GA 30092-2812

Tel. Number: (770) 246-6647

\_\_\_\_\_  
 \*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR M&T Chemical n/k/a \*/  
Elf Atochem North America, Inc.

Date: September 12, 1996  
Name: [Signature]  
Please Type Title -- Sr. V.P. - HFS  
Address -- 2000 Market Street  
Philadelphia, PA 19103-3222

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Frank Friedman

Title: Sr. V.P. - HES

Address: 2000 Market Street  
Philadelphia, PA 19103

Tel. Number: 215-419-7040

\_\_\_\_\_  
\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR

E. Moore - CONT. \*/

Date: 9/10/96Name -- James E. Moore for Micro Metal Finishing, Inc., F/K/A Micro Mechanical FinishingPlease Type Title -- ControllerAddress -- 3448 Spring Grove Avenue  
Cincinnati, Ohio 45225

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Douglas L. HensleyTitle: Attorney

Keating, Muething & Klekamp, P.L.L.  
Address: 1800 Provident Tower, 1 E. 4th St., Cincinnati, OH 45202

Tel. Number: (513) 579-6995

\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

SEP 6 1996

82

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

Monsanto Company  
FOR Michael R. Foreman \*/ JMR

Date: 9/6/96  
Name -- MICHAEL R. FOREMAN  
Please Type Title -- DIRECTOR REMEDIATION PROJECTS  
Address -- SEE BELOW

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Judith A. Reinsdorf, Esq.

Title: \_\_\_\_\_

Address: 800 N. Lindbergh Blvd.

St. Louis, Mo. 63167

Tel. Number: 314-694-8503

\_\_\_\_\_  
\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR AlliedSignal Inc., successor to the  
Bendix Corporation \*/

Date: September 13, 1996

Name -- Paul H. Arbesman

Please Type Title -- Leader, Remediation & Evaluation Services, COE

Address -- AlliedSignal Inc.

101 Columbia Road

Morristown, NJ 07962

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Pamela J. Cissik

Title: Senior Counsel, Environmental  
AlliedSignal Inc.

101 Columbia Road

Address: Morristown, NJ 07962

Tel. Number: (201) 455-5422

\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR Brunswick Corporation ±/  
 BY Michael D. Schmitz

Date: September 12, 1996  
 Name -- Michael D. Schmitz  
 Please Type Title -- Assistant Secretary  
 Address -- Brunswick Corporation  
1 N. Field Court  
Lake Forest, Illinois 60045-4811

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Robert T. McNaney  
 Title: General Counsel  
Brunswick Corporation  
1 N. Field Court  
 Address: Lake Forest, Illinois 60045-4811  
 Tel. Number: (847) 735-4305

±/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

•

\*1 Hollyhaze

September 11, 1996  
Holly Leese  
Assistant Secretary  
1000 Chrysler Drive, CIMS 485-14-78  
Auburn Hills, MI 48326-2766

[Please Type]

**Name:** Vicky L. Anticuar

**Title:** Service of Process Coordinator

Chrysler Corporation  
Address: 1000 Chrysler Drive, CIMS 485-14-56  
Auburn Hills, MI 48326-2766

**Tel. Number:** 810-512-3961

**\*A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.**

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR CITY OF BATTLE CREEK \*/

*Paul R. Levy*

Date: 9/5/96  
 Name -- Paul R. Levy for City of Battle Creek  
 Please Type Title -- City Attorney  
 Address -- P. O. Box 1717  
 Battle Creek, MI 49016-1717

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: PAUL R. LEVY

Title: CITY ATTORNEY


Address P. O. BOX 1717  
BATTLE CREEK MI 49016-1717

Tel. Number: ~616/966-3385

\_\_\_\_\_  
 \*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR



CLARK EQUIPMENT COMPANY

\*/

Date: September 3, 1996  
 Name -- Patricia Nachtigal  
 Please Type Title -- Vice President  
 Address -- 200 Chestnut Ridge Road  
 Woodcliff Lake, NJ 07675

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: James D. Ray

Assistant Company Counsel  
 Title: & Environmental Counsel

Address: 200 Chestnut Ridge Road, Woodcliff Lake, NJ 07675

Tel. Number: (201) 573-3102

---

\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

APPROVED AS TO FORM  
*LF Day* 9/2/96  
 CONSUMERS POWER COMPANY  
 LEGAL DEPARTMENT

FOR CONSUMERS POWER COMPANY \*/

Signature:

*David A. Mikelonis*

Date:

9/6/96

Name

David A. Mikelonis

Please Type Title

Sr. Vice President and General Counsel

Address

212 West Michigan Avenue  
 Jackson, MI 49201

Agent Authorized to Accept Service on Behalf of Above-signed Party:

CONSUMERS POWER COMPANY

Name: John P. Dickev

Title: Attorney


Consumers Power Company  
 Address: 212 West Michigan Avenue  
Jackson, MI 49201

Tel. Number: (517) 788-1846

\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR

  
Ted Lucas, President  
Contractors United, Inc.

\*/  
PHS

Date: September 13, 1996

Name -- Ted Lucas

Please Type Title -- President

Address -- P.O. Box 421459, Indianapolis, IN 46242-1459

Agent Authorized to Accept Service on Behalf of Above-signed  
Party:

[Please Type]

Name: Peter H. Smith

Title: Vice President, Legal Affairs

Heritage Environmental Services, Inc.

Address: 7901 W. Morris Street, Indianapolis, IN 46231

Tel. Number: 317/390-3116

Fax. Number: 317/486-5085

\_\_\_\_\_  
\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).


FOR Corning Incorporated f/k/a Corning Glass\* Works

Date: 9/10/96

Name --

Please Type Title --

Address --

  
Andrea Kojm Thomas  
Assistant Counsel  
Legal Department  
Corning Incorporated  
HQ E2 10  
Corning, New York 14831

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Andrea Kojm Thomas  
[Please Type]

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Address: \_\_\_\_\_

Tel. Number: 607/974-8134

\_\_\_\_\_  
\*A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR Cosco Household Products \*/



Date: September 12, 1996  
 Name -- Jonathan P. Reynolds  
 Please Type Title -- Exec. Vice President and General Counsel  
 Address -- 2525 State Street, Columbus, IN 47201

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Jones Patterson Boll & Tucker  
Cynthia A. Boll

Title: Attorney

Address: 330 Franklin Street, Columbus, IN 47202-0067

Tel. Number: 812-376-8266

\_\_\_\_\_  
 \*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR Dana Corporation \*/

Date: Sept. 4, 1996  
 Name -- Lisa A. Wurster  
 Please Type Title -- Legal Counsel  
 Address -- Dana Corporation  
4500 Dorr Street  
Toledo, Ohio 43615

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: CI Corporation

Title: \_\_\_\_\_

Address: 815 Superior Avenue NE  
Cleveland, OH 44114

Tel. Number: 800-221-0556

\_\_\_\_\_  
 \*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR GENERAL MOTORS CORPORATION \*/

Date: September 4, 1996  
Name -- Don A. Schieman  
Please Type Title -- Attorney  
Address 3044 West Grand Blvd, MC 482-112-149  
Detroit, MI 48202

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Theresa L. Cerwin

Title: Authorized Agent

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Address: 3031 West Grand Blvd., Detroit, MI 48232

Tel. Number: (313) 974-1822

---

\*A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR Wickes Manufacturing Company #1  
By John B. Orgain IV

Date: September 10, 1996  
Name -- Wickes Manufacturing Company  
Please Type Title -- Secretary  
Address -- 701 McCullough Drive  
Charlotte, NC 28262

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: John B. Orgain, IV

Title: Secretary

Address: 701 McCullough Drive  
Charlotte, NC 28262

Tel. Number: (704) 548-2353

---

\*A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

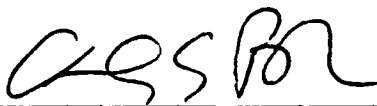
THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR Dowel Products, Inc. \*/

Date: 9/3/96  
 Name -- Charles E. Bartier,  
 Please Type Title -- Attorney  
 Address -- Foster, Swift, Collins & Smith  
313 S. Washington  
Lansing, MI 48933

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: 

Title: Attorney  
Foster, Swift Collins & Smith, P.C.  
313 S. Washington  
 Address: Lansing, MI 48933

Tel. Number: 517-371-8155

\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR Essex Wire \*/  
BY W. F. Leikin

Date: September 10, 1996

Name -- William F. Leikin

Please Type Title -- Attorney-in-Fact

Address -- c/o UTC, One Financial Plaza, Hartford, CT 06101

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: William F. Leikin

Title: Assistant General Counsel  
United Technologies Corporation  
One Financial Plaza

Address: Hartford, CT 06101

Tel. Number: (860) 728-6430

\_\_\_\_\_  
\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR MAGNANO \*/

Date: Sept 12, 1996  
 Name -- Thomas M. Halmer  
 Please Type Title -- Vice President and General Counsel  
 Address --

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Delmer F. Teglas

Title: Director Environmental Affairs

Philips Consumer Electronics Co.

Address: P.O. Box 1210  
Greeneville, TN 37744-1210

Tel. Number: (423)636-5508

\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR V.W. KAISER ENGINEERING, INC. \*/

by *Terrence S. Kaiser*

Date: SEPTEMBER 10, 1996  
 Name -- TERRENCE S. KAISER  
 Please Type Title -- PRESIDENT  
 Address -- 8642 GLEASON STREET  
MILLINGTON, MICHIGAN 48746

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Robert R. Clark

Title: Attorney

SOMER & BARNARD, PC  
 Address: 111 Monument Circle, Suite 4000  
Indianapolis, IN 46204

Tel. Number: -317/630-4000

\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

FOR Howard Plating Industries, Inc \*/

BY:: *Timothy L. Launius*

Date: September 9, 1996

Name -- Timothy L. Launius

Please Type Title -- Environmental Compliance Manager

Address -- Howard Plating Industries, Inc.  
32565 Dequindre Road  
Madison Heights, MI 48071

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Address: \_\_\_\_\_

Tel. Number: \_\_\_\_\_

\_\_\_\_\_  
\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

Ruth E. Murphy  
 Ruth E. Murphy, President  
 FOR Lawrence Industries \*/

Date: September 10, 1996  
 Name -- Ruth E. Murphy  
 Please Type Title -- President  
 Address -- P.O. Box 141, Plainwell, Michigan 49080

Agent Authorized to Accept Service on Behalf of Above-signed Party:

[Please Type]

Name: Michael B. Ortega

Title: Attorney

Address: Reed, Stover & O'Connor, P.C., 800 Comerica Building  
Kalamazoo, Michigan 49007

Tel. Number: 616-381-3600

\*/A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Sheller Globe Corporation, et al., relating to the Auto Ion Superfund Site (Operable Unit 2).

PADREN (formerly known as Lansing Heat Treating Co.)

FOR BY Roy Ziegler, Partner  
Roy Ziegler Partner

Date: September 12, 1996  
Name -- Roy Ziegler  
Please Type Title -- Partner  
Address -- P.O. Box 2200  
Ann Arbor, MI 48106

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Miller, Johnson, Snell & Cumiskey, P.L.C.  
[Please Type]

Name: c/o Alan C. Schwartz

Title: Member

Address: 800 Calder Plaza Bldg., Grand Rapids, MI 49503

Tel. Number: (616) 831-1700

\*A separate signature page must be signed by each corporation, individual or other legal entity that is settling with the United States.

**APPENDIX A**  
**RECORD OF DECISION**

**DECLARATION**  
**SELECTED REMEDIAL ALTERNATIVE**  
**FOR THE**  
**AUTO ION SUPERFUND SITE**  
**OPERABLE UNIT 2**  
**KALAMAZOO, MICHIGAN**

**Statement of Basis and Purpose**

This decision document presents the selected remedial action for the Auto Ion site (Operable Unit 2), Kalamazoo, Michigan which was chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This decision is based on the administrative record for this site.

**Assessment of the Site**

U.S. EPA has determined that conditions at the Auto Ion site pose no current or potential unacceptable risk to human health or the environment. While the Auto Ion site does exhibit elevated levels of heavy metals and some organics, calculations of potential future risk indicate that the contamination will not likely pose an unacceptable risk to human health or the environment. Accordingly, no active remediation for the groundwater operable unit is necessary to ensure protection of human health and the environment. U.S. EPA will however, establish Alternate Concentration Limits (ACLs) for groundwater, monitor groundwater to ensure that the ACLs are not exceeded, and use institutional controls to help assure that groundwater beneath the site does not pose a risk to human health or the environment.

**Description of the Selected Remedy**

The purpose of this remedy is to establish Alternate Concentration Limits (ACLs) for groundwater and institute a groundwater monitoring program that will ensure that groundwater does not pose a risk to human health or the environment. It should be noted that the soil cleanup conducted in 1993 will have a significant impact on groundwater quality due to the fact it removed the vast majority of the source to further groundwater contamination.

The major components of the selected remedy include:

- Institutional controls to limit groundwater use;

- Establishment of Alternate Concentration Limits (ACLs);
- Monitoring of ground water to ensure ACLs are not being exceeded.
- Development of a Remedial Action Plan for groundwater.

#### Statutory Determinations

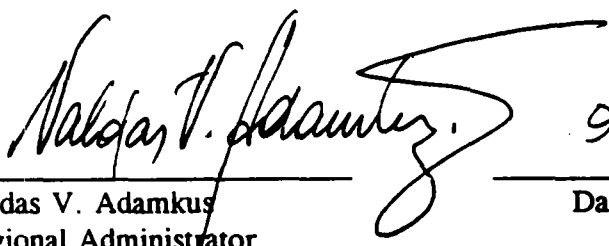
The selected remedy is protective of human health and the environment and complies with Section 121(d)(2)(B)(ii) of CERCLA for the establishment of ACLs for groundwater and is cost effective. This remedy does not satisfy the statutory preference for remedies that reduce the toxicity, mobility, or volume through treatment as a principal element because treatment was not found to be practicable.

A review will be conducted within five years after commencement of the remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment because this remedy will result in hazardous substances remaining on site above health-based levels.

U.S. EPA has determined that its response at this site is complete. Therefore, the site now qualifies for inclusion on the Construction Completion List.

#### State Concurrence

The State of Michigan does not concur with the selected remedy. The Letter of Non-Concurrence is attached to this ROD.

  
 Valdas V. Adamkus  
 Regional Administrator

9/23/94  
 Date

## **TABLE OF CONTENTS**

	<b><u>Page</u></b>
<b>A. Site Location</b>	<b>1</b>
<b>B. Site History</b>	<b>1</b>
<b>C. Highlights of Community Participation</b>	<b>4</b>
<b>D. Summary of Current Site Condition</b>	<b>4</b>
<b>E. Summary of Site Risks</b>	<b>6</b>
<b>F. Scope of the Remedy</b>	<b>9</b>
<b>G. Description of Alternatives</b>	<b>9</b>
<b>H. Summary of Comparative Analysis of Alternatives</b>	<b>11</b>
<b>I. The Selected Remedy</b>	<b>14</b>
<b>J. Statutory Determinations</b>	<b>15</b>
<b>K. Summary</b>	<b>18</b>
<b>L. Responsiveness Summary</b>	<b>19</b>
<b>M. Glossary</b>	<b>30</b>

## SUMMARY OF REMEDIAL ALTERNATIVE SELECTION

### A. SITE LOCATION AND DESCRIPTION

The Auto Ion site is located at 74 Mills Street in a commercial/industrial district of northeast Kalamazoo. The site covers approximately 1.5 acres and is located along the north bank of the Kalamazoo River.

### B. SITE HISTORY

The City of Kalamazoo operated a coal burning electrical generating station on the site between 1914 and 1956. The Auto Ion Chemical Company purchased the property in 1964 and operated a waste treatment facility for electroplating wastes. Waste treatment operations included cyanide destruction and precipitation of heavy metals with the disposal of heavy metal sludges in an on-site lagoon. During these operations, poor waste handling practices resulted in multiple spills onto the surface soil at the site as well as illegal discharges to the Kalamazoo River and city sewers. Due to the poor waste handling practices, the State of Michigan refused to renew Auto Ion's license to operate in 1973. The facility was then abandoned by the Auto Ion Co.

In 1982, U.S. EPA proposed the Auto Ion site for inclusion on the National Priorities List (NPL), and in 1983, the Auto Ion site was officially placed on the NPL and designated a Superfund site.

In 1985, U.S. EPA entered into an agreement with the Potentially Responsible Parties (PRPs) for the Auto Ion site to conduct a removal action at the abandoned facility. The removal action consisted of containerizing and off-site disposing of hazardous materials (i.e., plating wastes) left at the site. In 1986, the building was razed by the City of Kalamazoo.

Pursuant to a June 18, 1986, Administrative Order by Consent between U.S. EPA and a group of 23 PRPs, a Remedial Investigation/Feasibility Study (RI/FS) was conducted by the PRPs in 1987 and placed in the Administrative Record on August 7, 1989. The RI included the collection of soil, sediment, groundwater and surface water samples from the site and the adjacent Kalamazoo River. The RI Report, released in December of 1988, describes the nature and extent of organic and inorganic contamination found at the Auto Ion site. Following issuance of the RI Report, U.S. EPA determined that the most prudent way to address contamination at this site was to first remove the soil in the unsaturated zone because it was acting as a source of further groundwater contamination and then address the groundwater contamination as a separate operable unit.

### FIRST OPERABLE UNIT RECORD OF DECISION:

The First Operable Unit Record of Decision (ROD) of excavation and off-site disposal of contaminated soil in the unsaturated zone was signed on September 27, 1989. The State of

Michigan concurred with this remedy.

This initial operable unit addressed the source of further groundwater contamination. The remedy selected addressed the principal threats at the site by removing and off-site disposing of all soils contaminated above site-specific cleanup standards located in the unsaturated zone. According to the ROD, all excavated soils were to be disposed of at a Resource Conservation and Recovery Act (RCRA) landfill and where appropriate, the soil was to be stabilized before land disposal. Areas of excavation on-site were to be backfilled with clean soils.

The FS Report for Operable Unit I evaluated several alternatives which would appropriately address the risks posed by the contaminated soil. Six alternatives were developed and evaluated in detail: 1) no action, 2) stabilization/capping, 3) vadose zone excavation/disposal, 4) selected vadose zone excavation/disposal, 5) vadose zone excavation/stabilization/disposal, 6) selected vadose zone excavation/stabilization/disposal. The six alternatives were evaluated against the nine criteria as detailed in Section H of this ROD. Based on the consideration of the requirements of CERCLA, the detailed analysis of alternatives in the FS Report, and public comments, U.S. EPA, with the concurrence of MDNR, determined that Alternative 6: selected vadose zone excavation/stabilization/disposal was the most appropriate remedy for the first operable unit at the Auto Ion site. U.S. EPA's approval of the FS Report for the first operable unit satisfied the requirement of completing the RI/FS for this operable unit.

#### **FIRST OPERABLE UNIT REMEDIAL ACTION:**

Following issuance of the First Operable Unit ROD, U.S. EPA and 42 PRPs entered into a Consent Decree signed May 15, 1990, to conduct a Remedial Design and Remedial Action (RA/RD) for the First Operable Unit. The design report was completed by the PRPs and was amended and approved by U.S. EPA on March 16, 1993.

On-site remedial activities began on April 19, 1993. Soil was excavated in the vadose zone that was contaminated with organics and inorganics above the site-specific cleanup standards calculated for the Auto Ion site. The site-specific cleanup standards were established at a carcinogenic risk level of  $10^{-4}$  or the average background level, whichever was higher. All soil contaminated with RCRA designated F006 metals (i.e., electroplating waste) were disposed of at EnviroSAFE Services of Ohio, Inc., a RCRA subtitle C facility in Oregon, Ohio. All other contaminated soil was disposed of at either Forest Lawn Landfill, in Three Oaks, Michigan or, the Browning-Ferris Industries C & C Landfill in Marshall, Michigan, both are RCRA subtitle D facilities. Excavation and off-site disposal of the former Auto Ion basement floor and the demolition debris inside the former basement was conducted. A total of 11,850 tons of non-hazardous soil/debris were removed from the site and 12,393 tons of hazardous (RCRA-F006) soil/debris were removed for a combined total of 23,243 tons. A silty/clay and sand soil mixture was used to backfill all excavation areas on-site and a layer of topsoil and seed were then applied. A final inspection was conducted by U.S. EPA, U.S. Army Corps of Engineers, MDNR, and the PRPs' consultant on November 5, 1993. U.S.

EPA approved the PRPs' final RA Report for operable unit 1 on August 3, 1994. U.S. EPA approval of this document satisfied the requirements of completing the RD/RA for the first operable unit.

#### DEMONSTRATION OF QA/QC FROM THE CLEANUP ACTIVITIES (OU 1):

The remedial action conducted for the first operable unit complied with all U.S. EPA quality assurance and quality control (QA/QC) procedures and protocol. Only U.S. EPA analytical methods were used. The QA/QC program utilized throughout the remediation activities for the first operable unit was complied with adequately. This program enabled U.S. EPA to determine that all analytical results are accurate enough to assure satisfactory execution of the remedial action consistent with the first operable unit ROD.

#### MONITORING RESULTS FOR OPERABLE UNIT 1:

During all stages of the first operable unit remedial action, the PRPs' consultant, with oversight by U.S. EPA, conducted confirmatory sampling to ensure that the remedial action objectives were met. The results showed that the cleanup levels were achieved. Documentation of the complete results and accuracy of the confirmatory sampling program is contained in the Auto Ion Operable Unit 1 Remedial Action Report.

#### SUMMARY OF OPERATION AND MAINTENANCE FOR OPERABLE UNIT 1:

The site remains fenced and "no trespassing" signs have been posted on the perimeter of the site. Final grading and seeding of the site was completed in November 1993. Site inspections will be conducted by the PRPs every 60 days, or more frequently, if needed to ensure the integrity of the fencing, signage and the vegetative cover.

#### SECOND OPERABLE UNIT:

The RI Report issued in December 1988, describes the results of the RI conducted in 1987 which covered both the first and second operable units. A Sediment Toxicity Evaluation was conducted by the PRPs in October 1992 to determine what, if any, impact to biota was occurring in the Kalamazoo River as a result of groundwater discharges from the Auto Ion site to the river. The FS Report for the second operable unit was completed by the PRPs and was modified and approved by U.S. EPA on March 4, 1994. The FS Report evaluated several alternatives which would appropriately address the groundwater contamination situation at Auto Ion. Four alternatives were developed and evaluated in detail: 1) no action, 2) natural attenuation/institutional controls, 3) groundwater containment/treatment, 4) groundwater extraction/treatment. The four alternatives were evaluated against the nine criteria as detailed in Section H of this ROD. Based on the requirements of CERCLA, the detailed analysis of alternatives in the FS Report, and public comments, U.S. EPA has determined that Alternative 2: natural attenuation/institutional controls is the most appropriate remedy for the second operable unit at the Auto Ion site. On August 4, 1994, U.S. EPA

modified and approved the PRPs' phase I work plan for the installation of monitoring wells. U.S. EPA's approval of this document satisfied the requirement of completing the RI/FS for this operable unit. Work began on aquifer characterization for well installation on August 15, 1994.

#### **SUMMARY OF OPERATION AND MAINTENANCE FOR OPERABLE UNIT 2:**

Operation and Maintenance for groundwater at this site will involve routine monitoring to ensure that levels remain below established ACLs. Institutional controls will also be established at the site to further assure that groundwater beneath the Auto Ion site is not used as a source for drinking water in the future.

#### **SUMMARY OF FIVE-YEAR REVIEW STATUS FOR OPERABLE UNIT 2:**

As part of this second operable unit ROD, a Five-year Review of the site through routine groundwater monitoring, as deemed prudent by U.S. EPA, in consultation with MDNR, is required.

The reason for including the Five-year Review in this ROD is that groundwater contaminants will remain at levels in excess of some Federal and State regulatory limits.

#### **PROTECTIVENESS:**

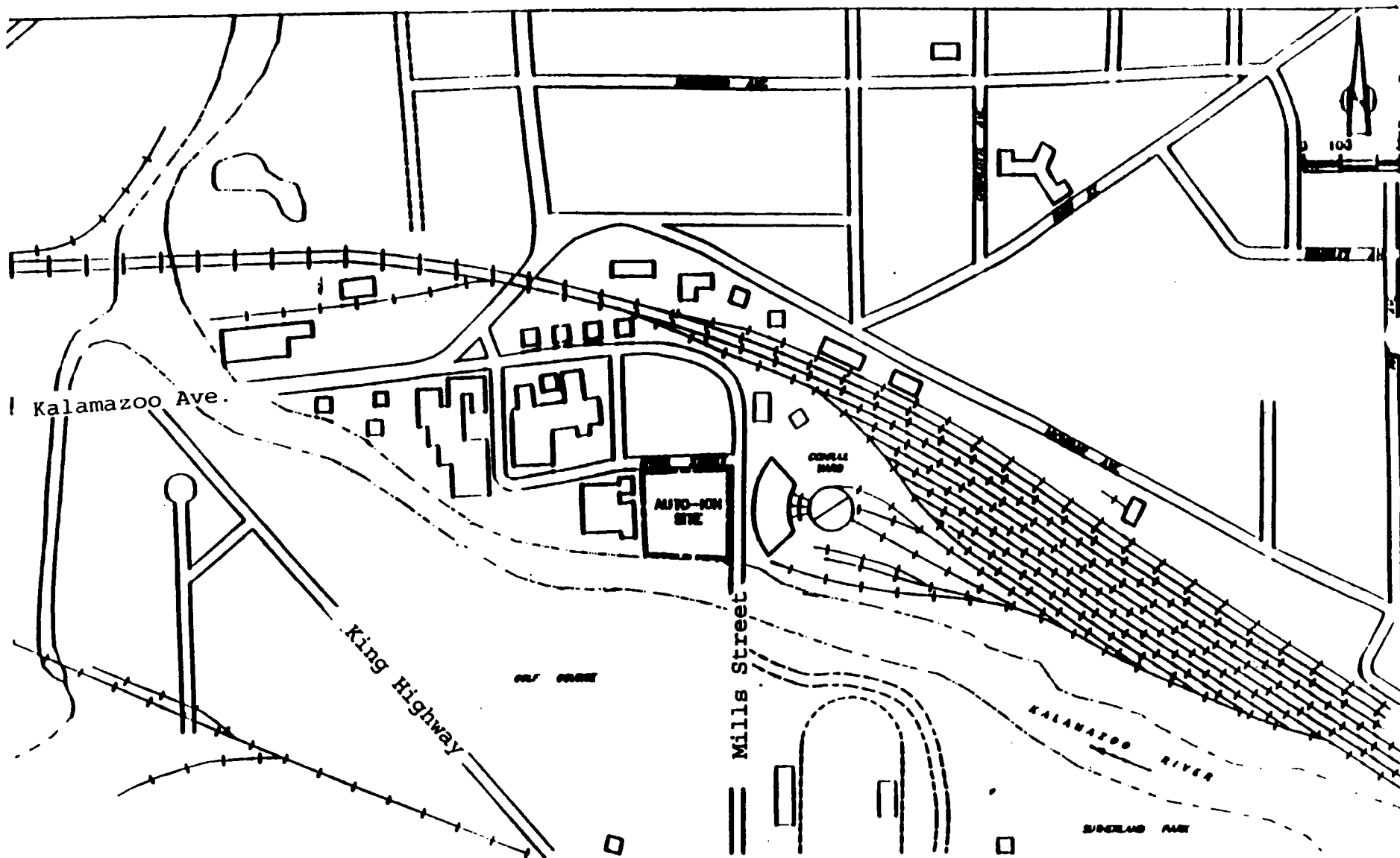
With the inclusion of the requirements of this ROD, all the completion requirements for this site will be met as specified in OSWER Directive 9320.2-3A. Confirmatory sampling of soil has verified that the ROD cleanup objectives for soil have been achieved. Establishment of ACLs, institutional controls, and routine groundwater monitoring, will meet the objectives of the ROD for groundwater by providing assurance that groundwater beneath the site does not pose any threats to human health and the environment.

#### **C. COMMUNITY PARTICIPATION**

The Responsiveness Summary in Section L discusses the involvement of the community during the RI/FS and remedy selection process and shows that the public participation requirements of CERCLA Sections 113(k)(2)(i-v) and 117 of CERCLA have been met at this site. The decision is based on the Administrative Record.

#### **D. SUMMARY OF CURRENT SITE CONDITIONS**

The Auto Ion site is currently a vacant fenced parcel of land on the north bank of the Kalamazoo River (see Figure A). Topography is relatively flat and vegetation consists of a grass cover and a row of mature trees along the river's edge. Most of the site lies within the 100-year floodplain for the Kalamazoo River.



# LEGEND

- +—+— RAILWAY
- - - - - SITE BOUNDARY

FIGURE A  
 SITE AREA PLAN  
 AUTO-ION SITE  
 Kalamazoo, Michigan

The nearest residences are located approximately 500 feet north of the site. There are approximately 2,300 people living within a 1/2-mile radius of the site. The drinking water supply for all residents in Kalamazoo is provided through a municipal system which utilizes groundwater wells located outside of the area of influence of the Auto Ion site. There are several businesses located within a 500 foot radius of the site, including the Conrail facility on Auto Ion's eastern border and the former Production Painting Company on the site's western border. Both of these facilities are listed on Michigan's Act 307 list of sites of environmental contamination. The stretch of river in front of the Auto Ion site is also a portion of the Kalamazoo River Allied Paper Superfund site.

#### **GEOLOGY:**

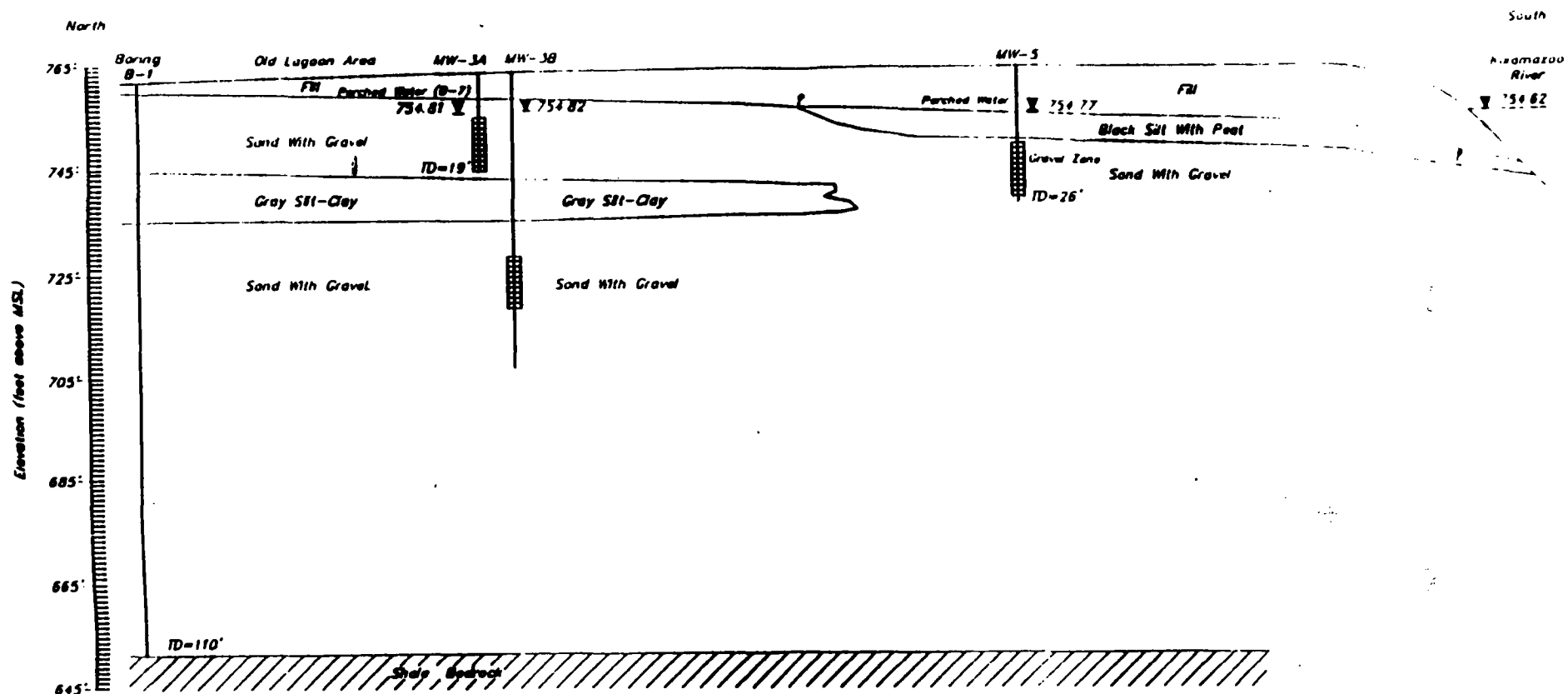
Site geology consists primarily of an unconsolidated glacial deposit of sand with varying amounts of gravel (see Figure B). This unconsolidated deposit is approximately 110 feet deep and overlies a shale bedrock. There are also two layers of low permeability deposits within the unconsolidated deposit. One is a 1-4 foot thick black organic deposit containing varying amounts of silt, clay and peat, and the other is a 5-7 foot thick layer of gray clay present at about 16 to 18 feet below grade in the northwest quarter of the site. Groundwater beneath the site typically flows laterally in a southward direction toward and into the Kalamazoo River. The water table is generally found at approximately 10 feet below grade. Under high surface water conditions on the Kalamazoo River, groundwater flow can reverse itself and flow northward under the site away from the river. This condition is common along the edges of rivers, but usually is a temporary seasonal condition that does not extend very far away from the river's edge. Groundwater flow velocity is relatively slow, averaging approximately 3 feet per month. Groundwater is the source of drinking water for the City of Kalamazoo. The nearest active well field is located approximately 1.5 miles north/northeast of the Auto Ion site and is in the opposite direction of typical groundwater flow.

#### **HYDROLOGY:**

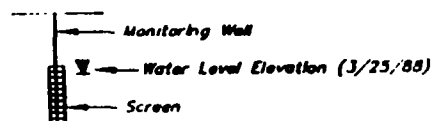
The Kalamazoo River, in the area of the Auto Ion site, is approximately 5 feet deep and 110 feet wide. The average flow rate is approximately 850 cubic feet per second. At this rate, it takes approximately 3 to 4 minutes for the river to traverse the 250 foot frontage of the Auto Ion site. The Kalamazoo River is a gaining stream and it flows in a northwesterly direction after passing the site and empties into Lake Michigan approximately 80 miles downstream at Saugatuck, Michigan. The Kalamazoo River is used for recreational purposes (i.e., fishing, canoeing).

#### **ENVIRONMENTAL SAMPLING:**

Groundwater samples were collected from six on-site monitoring wells, and one off-site background well, on three different dates all before the soil cleanup was conducted in 1993. The first samples were collected in November of 1987, the second in March of 1988 and the



LEGEND



Horizontal Scale 1" = 15'

Vertical Scale 1" = 20'

FIGURE B

**NORTH-SOUTH CROSS SECTION**  
**WESTERN PORTION OF SITE**

AUTO ION SITE  
 KALAMAZOO, MICHIGAN

last in December of 1990. Site related inorganics and organics were detected in these wells. A number of these contaminants exceed Maximum Contaminant Levels (MCLs) and/or Michigan Act 307 Type-C levels. The majority of site-related contaminant levels decreased between each sampling event. This contaminated groundwater discharges into the Kalamazoo River. The rate of discharge is relatively slow due to the low water table gradient. On average, 5.04 gallons of groundwater discharge into the river per each complete passage of the river. The average dilution ratio of surface water to groundwater is approximately 70,000 to 1.

Sediment samples from the river were collected and analyzed on two separate occasions. The first set of samples, collected during the RI, were collected at twenty-two different locations upstream, adjacent to the site, 1/2 mile downstream and 1 mile downstream of the site. Analysis of these samples indicated that some site-related organics and inorganics were detected at levels above upstream levels. Sediment samples were also collected from locations upstream, adjacent to and immediately downstream of the Auto Ion site in October of 1992 during the sediment toxicity evaluation. Some site-related organics and inorganics were detected in excess of upstream samples. Surface water samples from the Kalamazoo River were collected on three separate occasions. Once in October 1987, again in November 1991 and then during the sediment toxicity evaluation in October 1992. Several site-related inorganics were detected at levels in samples downstream of the site in excess of levels upstream during the 1987 sampling event. The 1991 samples did not show any increase in contaminant levels between upstream and downstream samples except for silver which was detected near the detection limit. Some site-related organics and inorganics were detected in excess of upstream samples during the 1992 sampling event.

#### **E. SUMMARY OF SITE RISKS - (See Glossary for definitions of terms used in this section)**

Based on analytical data collected during the RI, a baseline risk assessment was performed using site related contaminants. The baseline risk assessment assumes no corrective action will take place and that no site-use restrictions or institutional controls such as ground water use restrictions or construction restrictions will be imposed. The risk assessment determines actual or potential carcinogenic risks and/or toxic effects the chemical contaminants at the site pose under current and future land use assumptions using a four step process. The four step process includes: contaminant identification, health effects assessment, exposure assessment and risk assessment.

##### **1. Contaminant Identification**

The levels of contamination found in groundwater at the site can be found in Section 3.4 of the RI or Section 1.2.4 of the FS. Indicator parameters or chemicals of potential concern were selected based on their toxicities, level of concentration and wide spread occurrence. The chemicals of potential concern are listed in Table 1.

TABLE 1  
CHEMICALS OF CONCERN  
AUTO ION SITE

INORGANICS

Arsenic  
Nickel  
Barium  
Copper  
Lead  
Cadmium  
Mercury  
Cyanide  
Chromium III  
Chromium VI  
Silver

ORGANICS

Bis(2-ethylhexyl)-phthalate  
Trichloroethylene  
1,2-Dichloroethane  
Vinyl Chloride

2. Human Health Effects

The health effects for the contaminants of concern may be found in Section 6.6 of the Baseline Risk Assessment.

3. Exposure Assessment

The baseline risk assessment examined the risk to human health from the ingestion of groundwater. This evaluation was requested by U.S. EPA to determine any potential risk in the unlikely event that groundwater beneath the site were to be used as a drinking water source. The results of this evaluation are listed below under 4a and 4b.

4. Risk Characterization (See Glossary for definition of terms used in this section)

For each potential human receptor, site-specific contaminants from the ingestion of groundwater route of exposure were evaluated. Both non-carcinogenic health effects and carcinogenic risks were estimated.

a. Non-Carcinogenic Health Risks

The hazard index for humans ingesting groundwater beneath the site over a lifetime (i.e., 70 years) exceed the acceptable hazard index of 1.0. For potential use of the groundwater under the site, the hazard index value is 15.

#### **b. Carcinogenic Health Risks**

The potential excess lifetime cancer risk posed by the ingestion of contaminated groundwater beneath the site exceeds the acceptable risk range of  $1 \times 10^{-4}$  to  $1 \times 10^{-6}$ . The estimated excess cancer risk to humans ingesting groundwater from beneath the Auto Ion site over a lifetime (i.e., 70 years) is approximately  $1.2 \times 10^{-3}$ .

#### **5. Groundwater Use Scenario:**

Although the baseline risk assessment indicates that there is a potential risk to human health as a result of drinking groundwater from beneath the Auto Ion site, it must be noted that this scenario is highly unlikely for the following reasons:

- a. The drinking water source for the City of Kalamazoo is supplied by groundwater wells outside the influence of the Auto Ion site. In a January 24, 1994 letter, the City of Kalamazoo documented its intention to U.S. EPA to avoid the installation of any new wells in the vicinity of the site.
- b. The County of Kalamazoo must evaluate a set of criteria before permitting any new wells. Included in this criteria is a review of any potential sources of contamination that could potentially contaminate a well. In the case of the Auto Ion site, there is documented groundwater contamination beneath the site and there are two Michigan Act 307 sites adjacent to Auto Ion. These facts clearly indicate that the site area is a poor candidate for the installation of new drinking water wells.
- c. Michigan Act 399 prohibits the development of drinking water wells within the 100-year floodplain for any rivers of the State. Much of the Auto Ion site sits within the 100-year floodplain for the Kalamazoo River.
- d. Sodium levels in the area of the Auto Ion site are well above U.S. EPA health based criteria for drinking water. This may be a result of the use of road-salt in the area. Even absent the facts listed above, groundwater would likely be unfit for potable use due to these excessive sodium levels.

#### **6. Environmental Risks**

A sediment toxicity evaluation was conducted in the Kalamazoo River, proximal to the Auto Ion site in October 1992. The purpose of this investigation was to evaluate the aquatic sediments and its indigenous fauna for potential impact of contaminants originating from the Auto Ion site through groundwater seepage.

River sediments were collected and characterized/analyzed for physical, chemical and biological components. In addition, toxicity evaluations were carried out by employing two aquatic organisms. The results of this study are as follows:

- a. The macroinvertebrate community indigenous to the Kalamazoo River in the area of the Auto Ion site is quite diverse, abundant and is typical of this type of habitat.
- b. The best water quality, evaluated from the use of the Shannon-Weaver function and the Hilsenhoff Biotic Index, is adjacent to the Auto Ion property.
- c. Sediment toxicity evaluation carried out with Hyaella and Chironomus showed no statistically significant ( $p = 0.05$ ) effect in survival for either species compared to the control. However, a statistically significant ( $p = 0.05$ ) effect was observed in reduced weight for both species at one location adjacent to the site, which was partially attributed to upriver contamination rather than groundwater effects from the Auto Ion site alone.

The sediment toxicity results confirmed the contention that the area "logically" to be impacted by groundwater from Auto Ion did not elicit an adverse effect in either species. It was therefore concluded from the interpretation of physical, chemical and biological data that no adverse effect is demonstrated from the Auto Ion site on the indigenous fauna of the Kalamazoo River.

#### **F. RATIONALE FOR ACTION AND SCOPE OF THE SELECTED REMEDY**

This ROD addresses the final remedy for the Auto Ion site. The only possible threat remaining at the site is the contaminated groundwater. The selected remedial alternative will address the only possible remaining threat at the site. The source to further groundwater contamination was eliminated by the soil remediation conducted in 1993.

#### **G. DESCRIPTION OF ALTERNATIVES**

##### **Alternative 1 - No Action**

- Estimated Cost: \$0
- Estimated Years to Attainment of Cleanup Goals (assume either Michigan Act 307 Type C cleanup levels or EPA Maximum Contaminant Levels "MCLs"): 50 to 60 years

**This alternative involves no cleanup action for contaminated groundwater at the site. This alternative would allow contaminated groundwater to naturally attenuate and improve over time. The inclusion of the no-action alternative is required by CERCLA and the NCP to give U.S. EPA a basis for comparison with other alternatives.**

**Alternative 2 - Natural Attenuation/Institutional Controls**

- Estimated Cost: \$565,000**
- Estimated Years to Attainment of Cleanup Goals (assume either Michigan Act 307 Type C cleanup levels or EPA's MCLs): 50 to 60 years**

**This alternative involves the continued periodic monitoring of groundwater at the site while it is allowed to naturally attenuate. It also includes institutional controls (i.e., deed restrictions) to help assure that groundwater at the site is not used for drinking water purposes. Alternate Concentration Limits (ACLs), which are site specific chemical concentrations allowable in groundwater, would be established. ACLs are established by developing baseline groundwater quality levels for groundwater at the site and then employing a statistical analytical method to determine what level of contamination would cause a statistically significant impact to the Kalamazoo River. If future groundwater sampling confirms a statistically significant increase in the concentrations of the contaminants, U.S. EPA would then make a decision regarding the need to implement a subsequent active remediation of groundwater (e.g., pump and treat the groundwater).**

**Alternative 3 - Groundwater Containment via Low Flow Extraction/Metals Treatment/Filtration/Discharge to POTW.**

- Estimated Cost: \$5,650,000**
- Estimated Years to Attainment of Cleanup Goals (assume either Michigan Act 307 Type C cleanup levels or EPA's MCLs): 50 to 60 years**

**This alternative is both a containment and treatment alternative which involves pumping groundwater at a rate to depress the water table (5 to 20 gpm). This would prevent groundwater movement off-site into the Kalamazoo River. The collected groundwater would possibly require pre-treatment on-site to remove some of the heavy metals before it could be discharged to the City's sewer system.**

**Alternative 4 - High Flow Groundwater Extraction/Metals Treatment/Filtration/Discharge to a POTW**

- Estimated Cost: \$7,070,000**

· Estimated Years to Attainment of Cleanup Goals (assume Michigan Act 307 Type-C cleanup levels or EPA's MCLs): 50 to 60 years

This alternative is similar to Alternative 3 except that this alternative involves a faster pumping rate to more vigorously restore the aquifer (10 to 30 gpm). This alternative would capture all impacted groundwater on-site using a combination of extraction wells, subsurface drains, and/or hanging walls. The collected groundwater would possibly require pre-treatment on-site to remove some of the heavy metals before it could be discharged to the City's sewer system.

## **H. SUMMARY OF COMPARATIVE ANALYSIS OF ALTERNATIVES**

The relative performance of each remedial alternative was evaluated in the FS and below using the nine criteria set forth in the NCP at 40 C.F.R. §300.430. An alternative providing the "best balance" of trade-offs with respect to the nine criteria is determined from this evaluation.

### **Threshold Criteria**

The following two threshold criteria, overall protection of human health and the environment, and compliance with Applicable or Relevant and Appropriate Requirements (ARARs) or invoking a CERCLA waiver are criteria that must be met in order for an alternative to be selected.

#### **1. Overall Protection of Human Health and the Environment**

Overall protection of human health and the environment addresses whether a remedy eliminates, reduces, or controls threats to human health and to the environment.

Due to institutional controls and state law, as well as the fact groundwater beneath the Auto Ion site is not likely to be used as a source for drinking water, an actual risk to human health via ingestion of groundwater does not exist. The sediment toxicity evaluation for this site demonstrated that the discharge of contaminated groundwater to the Kalamazoo River is not having a detrimental impact on aquatic life in the river. Continued natural attenuation of groundwater remains as protective of both human health and the environment as are the two active groundwater alternatives. Therefore, all four alternatives are protective of human health and the environment. However, Alternative 1 does not provide for any monitoring of groundwater and therefore it would not be possible to determine if there were excessive levels of contamination entering the river at some point in the future. Also, Alternative 1 does not provide for institutional controls which will ensure groundwater is not used as a drinking water source. Therefore, while this alternative is still protective, it does not provide information on the level of protectiveness over time.

## **2. Compliance with Applicable or Relevant and Appropriate Requirements**

This criterion evaluates whether an alternative meets ARARs set forth in federal, or more stringent state, environmental standards pertaining to the site or proposed actions or invoking a CERCLA waiver.

Because the No Action alternative does not involve conducting any remedial action at the site, no ARARs analysis is necessary for Alternative 1. Alternatives 2, 3, and 4 are expected to be in compliance with ARARs. Alternative 2 does not evaluate the same ARARs as does Alternatives 3 and 4 because the establishment of ACLs under Section 121(d)(2)(B)(ii) of CERCLA waives other Federal and State ARARs relating to groundwater quality.

### **Primary Balancing Criteria**

#### **3. Long-Term Effectiveness and Permanence**

This criterion refers to expected residual risk and the ability of an alternative to maintain reliable protection of human health and the environment over time once clean up levels have been met.

Alternatives 1 and 2 will be effective in the long-term because risk evaluations have determined that continued natural attenuation of groundwater poses no risk to human health and the environment. However, because Alternative 1 does not include groundwater monitoring or institutional controls, it does not provide long-term effectiveness to the same degree as Alternative 2. Alternatives 3 and 4 would also be effective in the long-term because they involve a complete cessation of groundwater discharges to the river and provide for treatment of the contaminated groundwater.

#### **4. Reduction of Toxicity, Mobility, or Volume through Treatment**

This criterion evaluates treatment technology performance in the reduction of chemical toxicity, mobility, or volume. This criterion addresses the statutory preference for selecting remedial actions which include, as a principal element, treatment that permanently and significantly reduces the volume, toxicity, or mobility of the hazardous substances, pollutants, and contaminants.

Alternatives 1 and 2 do not include treatment as an element of each remedy and therefore they do not meet this criteria. Alternatives 3 and 4 do provide treatment of the contaminated groundwater before discharge to a POTW and therefore, both of these alternatives do meet this criteria.

## 5. Short-Term Effectiveness

Short-term effectiveness considers the time to reach cleanup objectives and the risks an alternative may pose to site workers, the community, and the environment during remedy implementation until cleanup goals are achieved.

The estimated time to reach cleanup objectives for all alternatives is approximately 50 to 60 years. The slow desorption rate for some metals bound to clay/silt particles controls this rate of decrease for contaminant levels in the aquifer. Use of an active pump and treat system will remove contaminants more rapidly in the early period of the cleanup. However, with time, the rate of contaminant reduction will decrease and the time to reach the low cleanup levels, established by Michigan Act 307 or U.S. EPA's MCLs, will be approximately the same as calculated for allowing groundwater to naturally attenuate.

There are no risks to workers, the community or the environment under Alternative 1 because there would be no contact with contaminated groundwater. The only expected contact with contaminated groundwater under Alternatives 2, 3 and 4 is for workers who install monitoring wells, purge wells and other extraction devices and then sample the wells. Any hazards related to this work can be addressed by adherence to a health and safety plan. No impact to the environment is expected for any of the alternatives.

## 6. Implementability

This criterion addresses the technical and administrative feasibility of implementing an alternative, and the availability of various services and materials required for its implementation.

All the alternatives are implementable and can be readily constructed with technology and materials presently available. Alternatives 3 and 4 have a disadvantage in that a large volume of river water would likely be included in the extracted groundwater due to the site's location next to the Kalamazoo River. This would reduce the number of pore volumes removed from the impacted groundwater. For every gallon of river water extracted, one less gallon of impacted groundwater would be extracted and treated.

## 7. Cost

This criterion compares the capital, O&M, and present worth costs of implementing the alternatives at the site. Table 2 shows the Cost Summary.

TABLE 2  
COST SUMMARY  
AUTO ION SITE  
OPERABLE UNIT 2

	<u>Capital Costs</u>	<u>O &amp; M Costs</u>	<u>Present Worth</u>
Alternative 1:	\$0	\$0	\$0
Alternative 2:	\$210,000	\$21,700	\$565,000
Alternative 3:	\$635,000	\$391,000	\$5,650,000
Alternative 4:	\$456,000	\$514,000	\$7,070,000

#### Modifying Criteria

##### 8. State Acceptance

The State of Michigan is not in agreement with the selection of Alternative 2 for remediation of groundwater at the Auto Ion site and has provided U.S. EPA with a letter of non-concurrence. Comments from MDNR are also included in the Responsiveness Summary.

##### 9. Community Acceptance

Comments have been submitted by the community, local government officials, and potentially responsible parties (PRPs). Comments and responses to those comments are described in the Responsiveness Summary.

#### I. THE SELECTED REMEDY

Based upon considerations of the requirements of CERCLA, the NCP and balancing of the nine criteria, the U.S. EPA has determined that Alternative 2 is the most appropriate remedy for the site. The components of the selected remedy are described below.

Establishment of Alternate Concentration Limits (ACLs) - The selected remedy will develop ACLs consistent with Resource Conservation and Recovery Act (RCRA) guidance. The ACLs will then be used as action levels for monitoring groundwater discharging from the site into the Kalamazoo River.

Groundwater Monitoring - To establish ACLs, baseline groundwater levels will be determined through sampling of monitoring wells for 4 consecutive quarters over a 1 year period. The frequency, timing, and protocol for sampling will be developed after ROD signature with the objective of gathering representative data of groundwater quality and its variation over a 1 year period. A statistical test which accounts for the variation of the data shall be employed to measure compliance, and shall be equivalent to, or the same as, the method outlined in 40 CFR Part 264.97(h).

The monitoring wells used to determine and subsequently verify groundwater quality will be located within the area of known groundwater contamination in the direction of groundwater flow. The number of monitoring wells designated for sampling as well as the frequency of sampling and the parameters sampled will be determined after ROD signature. Following establishment of the ACLs, groundwater will be sampled routinely to determine if any ACLs are being exceeded in groundwater. The frequency and duration of sampling and the parameters sampled will be determined after ROD signature.

Institutional Controls - Institutional controls (i.e., deed restrictions) will be implemented to limit the use of groundwater beneath the site.

Remedial Action Plan - In the event an ACL is exceeded at the 95 % confidence level for a period to be determined after ROD signature, then a Remedial Action Plan (RAP) shall be implemented to address the ACL exceedance. The RAP will be developed after ROD signature and will consist of pre-determined response actions to address ACL exceedances. The RAP shall be designed to confirm an exceedance and, if determined to be necessary by U.S. EPA, a remedy will be selected to mitigate an impact to the Kalamazoo River. Examples of potential responses include, but are not limited to, confirmational sampling, increased sampling frequency, determination of impact to the Kalamazoo River through surface water, sediment and biota sampling, or installation of a groundwater extraction system.

## **J. STATUTORY DETERMINATIONS**

U.S. EPA's primary responsibility at Superfund Sites is to undertake remedial actions that protect human health and the environment. Section 121 of CERCLA has established several additional statutory requirements and preferences. These include the requirement that the selected remedy, when completed, must comply with all applicable, relevant and appropriate requirements ("ARARs") imposed by Federal and State environmental laws, unless the invocation of a waiver is justified. The selected remedy must also provide overall effectiveness appropriate to its costs, and use permanent solutions and alternative treatment technologies, or resource recovery technologies, to the maximum extent practicable. Finally, the statute establishes a preference for remedies which employ treatment that significantly reduces the toxicity, mobility or volume of contaminants.

## **1. Protection of Human Health and the Environment**

Due to the fact that there is a very low potential that groundwater beneath the site would be used as a drinking water source, it is not practicable to restore groundwater to beneficial use as a drinking water source. The discharging groundwater also has no detectable impact on the Kalamazoo River. The major source of further groundwater contamination was eliminated in 1993 during the cleanup of soils in the vadose zone at the site. This is expected to result in a significant decrease in the levels of contamination in groundwater in the future, particularly after one pore volume of groundwater has moved out of the site (estimated to take 5 years). For these reasons, allowing groundwater to continue to naturally attenuate would be protective of human health and the environment. The establishment of ACLs for groundwater, which includes routine monitoring, would assure that the levels of contamination in groundwater do not pose a risk to the Kalamazoo River in the future. In the event groundwater monitoring indicates a statistically significant increase above ACLs, U.S. EPA will select a remedy from the RAP to address any potential impacts.

## **2. Compliance with ARARs**

The selected alternative will, in accordance with Section 121(d)(2)(B) of CERCLA, establish ACLs in lieu of compliance with other potential Federal and State water quality criteria ARARs. Compliance with all other ARARs will be required. Section 300.430(e)(2)(i)(E) of the NCP further explains that "If, however, a situation fulfills the CERCLA statutory criteria for ACLs, including a finding that active restoration of the groundwater to MCLs or non-zero MCLGs is deemed not to be practicable, documentation of these conditions for the ACL is sufficient and additional documentation of a waiver of the MCL or MCLG is not necessary.

## **3. Cost Effectiveness**

Cost effectiveness compares the effectiveness of an alternative in proportion to its cost of providing environmental benefits. Table 3 lists the costs associated with the implementation of the selected remedy.

TABLE 4

Total estimated costs for the selected remedy at the Auto Ion site (Operable Unit 2):

<u>Alternative</u>	<u>Total Capital Cost</u>	<u>Total O&amp;M, 30 Yr.</u>	<u>Total Present Worth</u>
2	\$210,000	\$21,700	\$355,000

The selected remedy for this site is cost effective because it provides the greatest overall effectiveness proportionate to its costs when compared to the other alternatives evaluated. The net present worth being \$565,000. The selected remedy results in a reduction of contamination in groundwater in approximately the same length of time as Alternatives 3 and 4 while remaining equally protective of human health and the environment.

4. Utilization of Permanent Solutions and Alternative Treatment Technologies or Resource Recovery Technologies to the Maximum Extent Practicable

The selected remedy represents the maximum extent to which permanent solutions and treatment technologies can be used in a cost-effective manner at this site. Of those alternatives that are protective of human health and the environment and that comply with ARARs, U.S. EPA has determined that the selected remedy provides the best balance in terms of long-term effectiveness and permanence, reduction of toxicity, mobility, or volume of contaminants, short term effectiveness, implementability, and cost, taking into consideration State and community acceptance.

The institution of ACLs, ground water monitoring, and restriction of groundwater use through implementation of institutional controls, will provide the most permanent solution practical, proportionate to the cost.

5. Preference for Treatment as a Principal Element

Based on current information, U.S. EPA believes that the selected remedy is protective of human health and the environment and utilizes permanent solutions to the maximum extent possible. The remedy, however, does not satisfy the statutory preference for treatment of the hazardous substances present at the site as a principal element because such treatment was not found to be practical or cost effective.

## **K. SUMMARY**

The selected remedy will satisfy the statutory requirements established in Section 121 of CERCLA, as amended by SARA, to protect human health and the environment, will comply with ARARs (by means of complying with ACLs established consistent with CERCLA), will provide overall effectiveness appropriate to its costs, and will use permanent solutions to the maximum extent practicable.

Treatment is not a component of the selected remedy because an attempt to treat the hazardous substances present at the site in groundwater would not provide a sufficiently significant additional decrease in risk presented by the site to justify the increased cost of implementing such treatment.

## **L. RESPONSIVENESS SUMMARY**

The public participation requirements of CERCLA sections 113 (k) (2) (i-v) and 117 of CERCLA have been met during the remedy selection process. Section 113(k)(2)(B)(iv) and 117(b) of CERCLA requires the EPA to respond "...to each of the significant comments, criticisms, and new data submitted in written or oral presentations" on a proposed plan for a remedial action. The Responsiveness Summary addresses concerns expressed by the public, potentially responsible parties (PRPs), and governmental bodies in written and oral comments received by U.S. EPA regarding the proposed remedy for the Auto Ion site (Operable Unit 2).

### **Background**

MDNR issued a fact sheet to the public in October 1987, at the beginning of the Remedial Investigation. Shortly after issuance of the fact sheet, U.S. EPA hosted a public meeting to provide background information on the Auto Ion site, explain the Superfund process, and provide details of the upcoming investigation. The remedial investigation was completed in 1988, and in June 1989, MDNR issued a second fact sheet to summarize the results of the investigation. U.S. EPA also hosted a second public meeting to discuss the results of the investigation in greater detail, and answer any questions.

The FS report and the Proposed Plan for the Auto Ion site (Operable Unit 2) were released to the public for review in March 1994. Information repositories have been established at the two following locations: Kalamazoo Public Library, 314 S. Rose, Kalamazoo, Michigan and Waldo Library, Western Michigan University, Kalamazoo, Michigan. The Administrative Record has been made available to the public at the U.S. EPA Docket Room in Region V and at the two information repositories.

Public meetings were held on April 6, 1994, and June 14, 1994, to discuss the FS and the Proposed Plan. At these meetings, representatives from the U.S. EPA and MDNR answered questions about the site and the remedial alternatives under consideration. Formal oral comments on the Proposed Plan were documented by a court reporter. Verbatim transcripts of these public meetings have been placed in the information repositories and Administrative Record. Written comments were also accepted at the meetings. The meetings were attended by approximately 25 persons, including local residents and PRPs.

The FS and Proposed Plan were available for public comment from March 28, 1994, through July 11, 1994. Comments received during the public comment period and the U.S. EPA's responses to those comments are included in the attached Responsiveness Summary, which is a part of this ROD. Advertisements announcing the availability of the Proposed Plan, start of the comment period and extension of the comment period were published in the Kalamazoo Gazette.

During the comment period, EPA received approximately 14 written submittals of comments and 25 oral comments concerning the proposed plan.

### Summary of Significant Comments

**Comment 1:** U.S. EPA's use of groundwater data from 1987, 1988 and 1990 is out-dated. Groundwater samples should be collected now to determine the levels of contamination discharging into the Kalamazoo River. This should be done before any decision about groundwater remediation is made.

**U.S. EPA's Response:** U.S. EPA's proposal to allow groundwater to continue to naturally attenuate is based on three rounds of groundwater sampling conducted in 1987, 1988 and 1990. While U.S. EPA agrees with public statements that this data is not recent, U.S. EPA believes it is still acceptable data upon which to base a decision to allow groundwater to continue to naturally attenuate. Due to the fact these groundwater samples were collected before the soil cleanup in 1993 (an action that will have a positive effect on groundwater quality), the use of this data is conservative as it represents a worst-case situation. Groundwater quality is logically expected to greatly improve now that the significant source to further groundwater contamination has been removed. Based on this worst-case data, U.S. EPA does not see any risk to human health or any detrimental effect to the environment. This is why U.S. EPA has proposed allowing groundwater to continue to naturally attenuate.

The original wells had to be removed in 1993 in order to complete the soil cleanup. Currently, U.S. EPA and MDNR are working together with the Responsible Parties for this site to re-install monitoring wells as soon as possible so a monitoring program can begin.

**Comment 2:** The biota study conducted in the Kalamazoo River is flawed and therefore the proposed plan for continued natural attenuation is not technically supportable and U.S. EPA should select one of the active groundwater remediation alternatives instead. The problems with the biota study include: 1) The source of water used in the sediment toxicity evaluation should have been from groundwater and water suspended in the sediment layers themselves; 2) Biota study sampling should have been conducted further downstream in depositional areas away from the scour zone near the site; 3) The decreased weight gain for the test species at one location must be attributable to Auto Ion; 4) A chronic study should cover more than a 10 day study period; 5) The control sample should have been located upstream of the site, not downstream and on the opposite bank; 6) The study was conducted only once so it does not evaluate variables such as seasonal and temperature changes, volume or speed variables, etc.; 7) The study was performed on species of questionable sensitivity to the materials being evaluated; 8) The large grain sizes of sediments nearest the site may lower the amount of surface chemistry and influence the macroinvertebrate analysis.

**U.S. EPA's Response:** U.S. EPA disagrees with all aspects of this comment. U.S. EPA believes the biota study was conducted properly and the results and conclusions

resulting from the study are accurate and supportable. With respect to the problems cited by the commentor:

1) The sediment toxicity evaluation used wet sediments from the Kalamazoo River and therefore included some water from the site area. The goal of the study was to determine what, if any, effect the sediments in the river were having on aquatic species. To use groundwater from beneath the site, as suggested by the commentor, would bias the results of the study because this would not reflect actual river conditions.

2) U.S. EPA acknowledges that sampling could have been conducted further downstream from the site, however, the further one goes from the site, the less able one is to attribute any possible impact to the Auto Ion site. The ability to show a causal link between the impact identified and the site is often critical for Superfund evaluations. There are several other known areas of contamination upstream and downstream of the Auto Ion site that are contributing to contamination in this river. The biota study was correctly set up to determine what impact Auto Ion is having, if any, on the river. It was not designed to determine what impact, if any, there might be based on cumulative discharges from several sources to the river. Furthermore, the samples taken nearest the site were in a scour zone because this also happens to be the initial point of discharge of groundwater from the Auto Ion site. This fact cannot be changed. Additional samples were taken downstream of Auto Ion in depositional areas to determine if there was any impact at those locations. The results showed there was no impact. It should also be noted that the levels of contamination expected to be found in the river, based on the groundwater/surface water model presented in Section 1.2.6.2.3 of the Feasibility Study, as a result of groundwater discharges from the Auto Ion site are relatively small. Even under extreme conditions the levels of contaminants expected to be found in river water would be at least 3 orders of magnitude below detection limits. The dilution ratio for surface water to groundwater is approximately 70,000 to 1. Therefore, groundwater discharges from Auto Ion are not likely to be detectable in downstream depositional areas.

3) It is difficult, if not impossible, to definitively state that the statistical weight difference in macroinvertebrates from one sample located adjacent to the Auto Ion site is a result of contaminant discharges in groundwater from Auto Ion. If the same effect had been seen in the other samples which were all located further downstream of the initial discharge point of groundwater, with no impact upstream, then it would likely be obvious that the source of this impact is from Auto Ion. This pattern was not found. All other samples showed no statistical difference between upstream and downstream. Therefore, the one location where the weight difference was detected, which is on the upstream side of the initial groundwater discharge point, is likely to be a result of areas of known contamination upstream of the Auto Ion site.

4) U.S. EPA also believes that 10 days is appropriate for a chronic biota study. Ten day sediment toxicity assessments are appropriate for both acute and chronic evaluations. It is also the opinion of U.S. EPA that a longer chronic study (i.e., 30 days) would not likely

yield different results than the 10 day study.

5) The control samples which were used in the Sediment Toxicity Evaluation were located downstream and on the opposite side of the river from the Auto Ion site. Initially these control locations were to be designated at upstream locations, however, because these upstream sediment locations differed physically from the locations near the Auto Ion site, a location near the site which was minimally impacted by the Auto Ion site was selected. The control location across the river would be influenced primarily by groundwater discharges from that side of the river, not from the opposite side where Auto Ion is located. Nevertheless, even if the control locations were moved back upstream, the conclusions reached in the Sediment Toxicity Evaluation would not change. Namely, the toxicity found nearest the site would not have differed statistically from toxicity upstream of the site.

6) U.S. EPA does not believe that collecting sediment samples or evaluating macroinvertebrate habitats at other times of the year would result in any significant differences in the results and conclusions described in the biota study. The area of river in front of the Auto Ion site is a scouring zone and seasonal variations would have little effect on sediments in this area. The health of the macroinvertebrate community is also not likely to be affected by seasonal variations in the river.

7) The two aquatic species used in the toxicity evaluation, *Hyalella azteca* and *Chironomus riparius*, are standard species for use in these types of evaluations. These two species are also found in the sediments near the site under natural conditions and therefore were ideally suited for this evaluation. It should also be noted that Mayflies were also found in the sediments near Auto Ion. This species is very pollution intolerant and so the fact that they were found near the site indicates that water and sediment quality in this area is good.

8) The Sediment Toxicity Evaluation acknowledges the differences in grain sizes between those sediments found nearest the site versus those upstream and downstream of the site. The larger grain size may in fact produce different toxicological and chemical results. However, in order to assess the area where groundwater discharges from the site to the river, the samples must be taken from this location. Collecting samples further downstream from Auto Ion would be inappropriate because results would not likely correlate back to the site.

**Comment 3:** Groundwater should be cleaned-up to levels at or below Michigan's Act 307 standards so the State can take the Auto Ion site off of the 307 list of Sites of Environmental Contamination and thereby allow for potential development of the property in the future.

**U.S. EPA's Response:** One of the goals of U.S. EPA is to remediate Superfund sites in order that the property may be used again in the future. This is also the case with the Auto Ion site. It is the opinion of U.S. EPA that the Auto Ion site can in fact be developed now. The soil cleanup in 1993 removed approximately 80% of all soils in the unsaturated zone. The soil cleanup standards were set at conservative levels that are protective of future industrial/commercial workers who may work on this property. It is highly unlikely (and

illegal) that a well would be placed on the site and used as a drinking water source in the future. Therefore, the site is now considered developable. U.S. EPA acknowledges that potential developers may be hesitant to buy a listed Superfund or 307 site or that a bank would be willing to lend money to a developer of such property. However, as demonstrated in the FS report, whether active remediation of groundwater were to occur on-site or continued natural attenuation, there is no difference in the time it would take to reach Act 307 groundwater levels.

**Comment 4:** This site does not meet the criteria for the establishment of ACLs.

**U.S. EPA's Response:** U.S. EPA disagrees with this comment. The Auto Ion site meets all statutory provisions as described under Section 121(d)(2)(B)(ii) of CERCLA and Section 300.430(e)(2)(i)(F) of the National Contingency Plan (NCP) for the establishment of Alternate Concentration Limits. The following describes how the criteria are met:

1. The first criteria requires that groundwater must discharge to surface water. Groundwater monitoring during the Remedial Investigation demonstrated that groundwater normally discharges into the adjacent Kalamazoo River.
2. The second criteria requires that there be no statistical increase in contaminant concentrations in surface water at the point of entry or at any point where there is reason to believe accumulation of constituents may occur downstream. Groundwater modelling has demonstrated that even under a realistic worst case scenario, groundwater constituents discharging from the Auto Ion site to the Kalamazoo River would be undetectable. These low levels are also not likely to accumulate to a significant degree at depositional areas downstream.
3. The final criteria requires that there be enforceable measures which prevent human exposure to groundwater contaminants that are above health-based levels. The selected alternative (natural attenuation) includes institutional controls (deed restrictions) as an element of the remedy. These deed restrictions will prevent the installation of drinking water wells on the site and thereby prevent human exposure to groundwater contaminants. In addition, the site is directly adjacent to the river which precludes any human exposure between the site boundary and the point of discharge of groundwater into the river.

**Comment 5:** The proposed alternative violates the following laws or regulations: 1) International Joint Commission's Remedial Action Plan; 2) U.S. EPA's Lakewide Management Plan; 3) U.S. EPA's National Toxic Rule under the Clean Water Act; 4) Great Lakes Water Quality Agreement; 5) Michigan Environmental Response Act 307; and 6) Michigan Water Resources Commission Act 245, Rule 57. Therefore, based on these violations, the proposed alternative should not be selected.

**U.S. EPA's Response:** Due to the fact that this site meets all criteria as established by CERCLA for the establishment of ACLs, the attainment of all other Applicable or Relevant and Appropriate Requirements (ARARs) related to water quality criteria is not required. Furthermore, the Remedial Action Plan, the Lakewide Management Plan and the Great Lakes Water Quality Agreement are not promulgated laws and are therefore not ARARs. However, U.S. EPA did consider them before making a final remedy decision. Because natural attenuation does not pose a risk to human health or cause a detrimental impact to the environment, then immediate attainment of the goal of "virtual elimination" as stated in the Great Lakes' guidelines does not need to be pursued for this site. The proposed alternative for this site meets the main goal of Superfund which is to protect human health and the environment. Attempts to also comply with more stringent laws and/or attain other goals are unnecessary and clearly not cost-effective due to the lack of a detectable environmental impact. It should also be noted that U.S. EPA disagrees with MDNR's interpretation as to the applicability of Rule 57 of Act 245. U.S. EPA interprets Rule 57 to apply only to point source discharges and not to non-point discharges. Therefore, Rule 57 is not applicable to the Auto Ion site.

**Comment 6:** Some members of the public voiced a concern that U.S. EPA may not have completed an exhaustive review of innovative technologies for groundwater remediation that may be more cost effective than a standard pump and treat method.

**U.S. EPA's Response:** U.S. EPA disagrees with this comment. Sections 3 and 4 of the FS Report evaluate approximately 26 different alternatives for addressing the contamination in groundwater at the Auto Ion site. The alternatives evaluated included: slurry walls, sheet piling, grout injection, and interceptor trenches, as well 14 different methods for treatment of contaminants in extracted groundwater. The FS evaluation reduced the number of viable alternatives to four that would have the best likelihood of meeting the nine criteria used in the final alternative evaluation.

**Comment 7:** Some members of the public were concerned about the use of both filtered and unfiltered groundwater data and the use of this data in determining the appropriateness of establishing ACLs.

**U.S. EPA's Response:** The 1987 groundwater samples were unfiltered samples. The samples collected in 1988 and 1990 were filtered samples. The latter two samples are more indicative of what is in the water column and what will likely be bio-available once groundwater moves into the river. Unfiltered samples include actual aquifer material (i.e., sand grains) that may have contaminants absorbed to them. As expected, the highest levels of contamination were in the unfiltered samples. All evaluations discussed in the FS Report take into account all results from all three rounds of groundwater sampling. This makes all the conclusions very conservative.

**Comment 8:** One member of the public stated that the municipal wells for Kalamazoo were contaminated from time-to-time. [It was unclear from the statement whether the citizen was

inferring that the contamination was coming from Auto Ion].

**U.S. EPA's Response:** U.S. EPA's Office of Superfund is not aware of contamination problems in Kalamazoo's municipal drinking water supply. Correspondence from the City of Kalamazoo has never mentioned this type of problem. Nevertheless, it is highly unlikely that this problem, if it exists, is a result of contamination from Auto Ion. Groundwater beneath the Auto Ion site normally flows in a southerly direction toward and into the Kalamazoo River. Data from the Remedial Investigation did not indicate there was any use of the aquifer in the site area that was causing any variation in this normal flow direction. During flood conditions on the river, it is possible for groundwater to reverse itself and flow in a northerly direction but only for a relatively short distance. The nearest active municipal well field is approximately 1.5 miles north-northeast of the site (in the opposite direction of normal groundwater flow at the Auto Ion site).

**Comment 9:** What actions are to be taken if ACLs are exceeded at some time in the future? Will pump and treat be initiated?

**U.S. EPA's Response:** After ACLs are established, a groundwater monitoring program will be instituted at the Auto Ion site. At that time, a Remedial Action Plan (RAP) will also be established for the site. In the event an ACL is exceeded at the 95% confidence level, the RAP will be triggered to address the exceedance. The RAP will consist of pre-determined response actions to address the ACL exceedance. The RAP will confirm the exceedance and, if necessary, mitigate an impact to the Kalamazoo River. Examples of potential responses include confirmational sampling, determination of impact to the environment (i.e. surface water and sediment monitoring and biota study), or installation of a groundwater extraction system (i.e., pump and treat).

**Comment 10:** What is the average time frame for groundwater pump and treat systems?

**U.S. EPA's Response:** An "average" time for pump and treat systems does not exist. Each site where pump and treat systems are being used is different in terms of the size of the contaminant plume, geology, types of contaminants etc. All these factors affect the length of time for cleanups. There are very few sites where groundwater has already been restored to drinking water standards using a pump and treat method. Most pump and treat systems installed in the last decade are still active. A 30 year groundwater remediation time frame is often used for Superfund sites for purposes of estimating costs to remediate groundwater. In the case of the Auto Ion site, it is estimated that all groundwater contaminants will reach the Act 307 type C and/or EPA's MCLs in 50 to 60 years whether pump and treat is used or not.

**Comment 11:** U.S. EPA should consider using a pump and treat system for 10 to 15 years to more quickly reduce the levels of contaminants and then turn the system off and allow the residual levels to naturally attenuate.

**U.S. EPA's Response:** While U.S. EPA acknowledges the fact that the levels of contamination would be more quickly reduced if a pump and treat system were used, it is still however no more protective of human health and the environment to actively remediate groundwater than to allow it to naturally attenuate. The human health risk assessment and the aquatic ecological assessment showed no risk from continued natural attenuation. To install and operate a pump and treat system at the Auto Ion site would not provide any additional risk reduction. Therefore, it is neither practicable nor cost-effective to operate a pump and treat system at Auto Ion.

**Comment 12:** U.S. EPA's projection of 50-60 years for "natural attenuation" to remediate this site is unsubstantiated and the costs for pump and treat are unrealistic.

**U.S. EPA's Response:** U.S. EPA disagrees with this comment. Appendix F of the FS Report demonstrates the removal time rates for nickel. Nickel is used in this analysis because it is considered to be one of the more difficult to remove contaminants at the site. The contaminant removal rate is tied directly to the fact that nickel, and other metals, desorb relatively slowly from clay silt materials even when groundwater is pumped at a fast rate. Also, as with many groundwater cleanups, the "law of diminishing returns" usually applies to cleanup times. In other words, the amount of contaminant is greatest when the system is first started up, but, with time the levels drop off as less and less contamination in the aquifer is available for removal. To attain the low cleanup levels under Federal and State regulations often requires many years of active remediation. This is also the projected situation with the Auto Ion site. What makes natural attenuation more cost-effective at the Auto Ion site is that it would require approximately the same amount of time to reach these cleanup levels as it would to pump and treat groundwater.

With respect to the costs listed in the FS Report, U.S. EPA believes the costs, as broken down in Section 7 of the report, are accurate. If there is any potential factor that may make these cost estimates inaccurate it is the fact that each alternative assumes a cleanup completion in 30 years, not 50-60 years as projected by the removal time frame analysis. Therefore, it is possible that the costs may actually be underestimated.

**Comment 13:** U.S. EPA has not taken into account the River Partners Program for making areas near the Kalamazoo River more accessible to the public in the form of riverfront restoration.

**U.S. EPA's Response:** The only information U.S. EPA has been provided with regarding the future development of the site was from the City of Kalamazoo. The City has stated that "the Comprehensive Plan calls for this site to be used for light industrial uses." U.S. EPA agrees that the site's location in an industrial/commercial sector of Kalamazoo will likely mean future development will remain industrial in nature. Nevertheless, it is also the opinion of U.S. EPA that the site property could be used for recreational purposes and would therefore be compatible with any potential recreational plans. The soil cleanup in 1993 significantly reduced any potential direct contact risk and institutional controls can be used to

reduce the risk that anyone would ingest contaminated groundwater. The aquatic ecological study also showed that groundwater discharges to the Kalamazoo River are not having a detrimental impact to aquatic life in the river.

**Comment 14:** An escrow account needs to be set up so that there is an assurance that the cost of any future remediation of groundwater at this site is covered.

**U.S. EPA's Response:** There is not likely to be a need to rely on an escrow account to pay for potential future remediation costs at the Auto Ion site. Due to the fact the site is a federally designated Superfund site on the National Priorities List (NPL) the site is eligible for federal funds in the event Responsible Parties are unable or unwilling to pay. It is always the goal of U.S. EPA to first have the Responsible Parties conduct remedial actions and to pay for them. Failing that, if the site is on the NPL, Superfund dollars may be expended to pay for the remediation. U.S. EPA will then seek recovery of all costs from the Responsible Parties after the remediation is complete. To date the Responsible Parties for the Auto Ion site have paid for all remediation activities at this site. U.S. EPA expects that the same level of cooperation will continue and any potential future remediation activities would likely be paid for by the Responsible Parties.

**Comment 15:** U.S. EPA has only looked at this site as a single source of contamination to the Kalamazoo River, all other sources are being ignored. Together, these multiple sources may be having a detrimental impact on the Kalamazoo River.

**U.S. EPA's Response:** U.S. EPA acknowledges that there are, unfortunately, more sources of contamination along the Kalamazoo River. However, the goal of the sediment toxicity evaluation at the Auto Ion site was to determine what, if any, impact this site is having on aquatic life in the river. The study found that groundwater discharges from the Auto Ion site were not having a detrimental impact on habitat quality. The very small amount of groundwater discharging from Auto Ion is not likely to be detectable in surface water and just as unlikely to be having a detectable impact on habitat quality further downstream. Other sites on the Kalamazoo River in the area of Auto Ion are being evaluated at the Federal and/or State levels. The Conrail facility upstream of Auto Ion is installing a product recovery system for groundwater under Act 307 authority. The Production Painting facility to the west of Auto Ion is also being evaluated under Act 307. Multiple source areas upstream and downstream of Auto Ion, including the Kalamazoo River/Allied Paper and Rockwell Superfund Sites, are also being evaluated by U.S. EPA and MDNR. Each of these sites will be evaluated in relation to the data collected for the sites (e.g., groundwater quality, biota quality etc.). U.S. EPA believes the Auto Ion data supports the remedy selected. U.S. EPA also believes that the data collected at these other sites should also be the basis for determining the need for response activities.

**Comment 16:** U.S. EPA's proposed plan is supported by the extensive soil excavation project completed in 1993 which resulted in the removal of all significant potential on-site sources of groundwater contamination.

**U.S. EPA's Response:** U.S. EPA agrees with this comment.

**Comment 17:** U.S. EPA has properly determined that groundwater at the site is not currently posing any risk to human health and the environment, and can, therefore, be safely remediated through natural attenuation and institutional controls.

**U.S. EPA's Response:** U.S. EPA agrees with this comment.

**Comment 18:** U.S. EPA has properly determined that the requirements for establishing alternate concentration limits (ACLs) are being met at the Auto Ion site.

**U.S. EPA's Response:** U.S. EPA agrees with this comment.

**Comment 19:** U.S. EPA has properly determined that legally applicable or relevant and appropriate requirements ("ARARs") do not have to be evaluated for purposes of implementing the proposed groundwater remedy because groundwater at the site does not pose a risk to human health and the environment.

**U.S. EPA's Response:** U.S. EPA agrees that all other water quality criteria ARARs do not have to be met, however, compliance with all other ARARs will be required.

**Comment 20:** Although legally applicable or relevant and appropriate requirements ("ARARs") do not have to be evaluated at this site, all ARARs will nevertheless be met under U.S. EPA's proposed plan.

**U.S. EPA's Response:** U.S. EPA agrees that a drinking water scenario is highly unlikely at the Auto Ion site and therefore the drinking water standards as described under the Federal Safe Drinking Water Act and under Michigan Act 307 Type C may not be applicable. U.S. EPA also agrees that Michigan Act 245, Part 22 is not applicable to the Auto Ion site because it regulates the discharge of contaminants into, not from, groundwater. U.S. EPA also agrees that Act 245, Rule 57 does not cover non-point source discharges such as groundwater discharges. U.S. EPA also agrees that the site may already be in compliance with Michigan Act 307 Type C values because Act 307 allows for the development of site-specific values, which, in the case of Auto Ion may be more appropriate because the generic Type C values developed by MDNR apply to the ingestion of groundwater. This scenario is highly unlikely at the Auto Ion site and therefore may not be applicable. However, U.S. EPA has not made a determination as to whether the PRP-generated Type C values listed in the FS Report are accurate.

**Comment 21:** Groundwater modeling studies demonstrate that implementation of an aggressive groundwater remedial system would not result in expedited aquifer restoration to acceptable drinking water standards any faster than natural attenuation.

**U.S. EPA's Response:** U.S. EPA agrees with this comment.

**Comment 22:** U.S. EPA's proposed plan is the only cost-effective remedy for addressing groundwater contamination at the site.

**U.S. EPA's Response:** U.S. EPA agrees with this comment.

**Comment 23:** The remedy evaluation process followed by U.S. EPA during the development of the groundwater FS Report conformed in all respects with the requirements of CERCLA and the National Contingency Plan.

**U.S. EPA's Response:** U.S. EPA agrees with this comment.

**Comment 24:** The groundwater remedy proposed by U.S. EPA is consistent with the location and expected future uses of the site.

**U.S. EPA's Response:** U.S. EPA agrees with this comment.

**Comment 25:** Adoption of this proposed remedy will help diffuse a growing suspicion among the regulated community that the EPA is prejudiced against low cost remedies even when they are scientifically justified.

**U.S. EPA's Response:** U.S. EPA's proposal was based on the fact that active remediation of groundwater at this site would provide little additional risk reduction. Continued natural attenuation is as protective of human health and the environment as is active groundwater remediation.

**Comment 26:** A more costly clean-up scheme at the Auto Ion site would actually do more damage to the environment of western Michigan than will the lower cost plans. The City of Kalamazoo would need to collect taxes to pay for the cleanup and this may compel future potential developers to look at "greenfield" sites outside of the urban core. This results in more habitat destruction in rural areas outside the city as businesses and residents vote with their feet in search of lower taxes and better municipal services. Let nature effectively clean up the Auto Ion site while keeping city tax dollars focussed where they should be (Police, Fire Protection, Streets, Parks etc.).

**U.S. EPA's Response:** U.S. EPA agrees that there are additional benefits to the City of Kalamazoo from the selection of the natural attenuation/institutional controls alternative. It must be noted however that the main reasons U.S. EPA proposed this alternative were based primarily on the fact that continued natural attenuation of groundwater posed no risk to human health and the environment and that active remediation of groundwater would not likely provide much, if any additional risk reduction.

## **M. GLOSSARY**

### **Applicable or Relevant and Appropriate Requirements.**

Section 121 (d) of CERCLA requires that remedial actions meet legally applicable or relevant and appropriate requirements (ARARs) of other environmental laws. Legally "applicable" requirements are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria or limitations promulgated under Federal or State law that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstances at a CERCLA site. "Relevant and appropriate" requirements are those requirements that, while not legally applicable to the remedial action, address problems or situations sufficiently similar to those encountered at the site that their use is well suited to the remedial action.

Non-promulgated advisories or guidance documents issued by federal or state governments ("to-be-considered or TBCs") do not have the status of ARARs; however, where no applicable or relevant and appropriate requirements exist, or for some reason may not be sufficiently protective, non-promulgated advisories or guidance documents may be considered in determining the necessary level of clean up for protection of human health and the environment.

### **Baseline Risk Assessment**

The baseline risk assessment is an analysis of the potential adverse health effects caused by hazardous substance releases from a site in the absence of any actions to control or mitigate these releases. The baseline risk assessment assumes no corrective action will take place and no site-use restrictions or institutional controls such as fencing, ground water use restrictions or construction restrictions will be imposed. There are four steps in the baseline risk assessment process: data collection and analysis; exposure assessment; toxicity assessment; and risk characterization.

### **Cancer Potency Factors (CPFs)**

Cancer potency factors (CPFs) have been developed by EPA's Carcinogenic Assessment Group for estimating excess lifetime cancer risks associated with exposure to potentially carcinogenic chemicals. CPFs, which are expressed in units of  $(\text{mg/kg-day})^{-1}$ , are multiplied by the estimated intake of a potential carcinogen, in mg/kg-day, to provide an upper-bound estimate of the excess lifetime cancer risk associated with exposure at that intake level. The term "upper bound" reflects the conservative estimate of the risks calculated from the CPF. Use of this approach makes underestimation of the actual cancer risk highly unlikely. Cancer potency factors are derived from the results of human epidemiological studies or chronic animal bioassays.

### **Excess Lifetime Cancer Risks**

Excess lifetime cancer risks are the sum of all excess cancer lifetime risks for all contaminants for a given scenario. Excess Lifetime Cancer Risks are determined by multiplying the intake level by the cancer potency factor for each contaminant of concern and summing across all relevant chemicals and pathways. These risks are probabilities that are generally expressed in scientific notation (e.g.  $1 \times 10^{-6}$ ). An excess lifetime cancer risk of  $1 \times 10^{-6}$  indicates that a person's chance of contracting cancer as a result of site related exposure averaged over a 70-year lifetime may be increased by as much as 1 in one million.

### **Hazard Index (HI)**

The Hazard Index (HI), an expression of non-carcinogenic toxic effects, measures whether a person is being exposed to adverse levels of non-carcinogens. The HI provides a useful reference point for gauging the potential significance of multiple contaminant exposures within a single medium or across multiple media. The HI for non-carcinogenic health risks is the sum of all contaminants for a given scenario. Any Hazard Index value greater than 1.0 suggests that a non-carcinogen potentially presents an unacceptable health risk.

### **Reference Doses (RfDs)**

Reference doses (RfDs) have been developed by U.S. EPA for indicating the potential for adverse health effects from exposure to chemicals exhibiting non-carcinogenic effects. RfDs, which are expressed in units of mg/kg-day, are estimates of average daily exposure levels for humans, including sensitive individuals. Estimated intakes of chemicals from environmental media (e.g., the amount of a chemical ingested from contaminated drinking water) can be compared to the RfD. RfDs are derived from human epidemiological studies or animal studies to which uncertainty factors have been applied (e.g., to account for the use of animal data to predict effects on humans). These uncertainty factors help ensure that the RfDs will not underestimate the potential for adverse non-carcinogenic effects to occur.

ADMINISTRATIVE RECORD INDEX  
AUTO-ION SITE  
KILPATRICK, MICHIGAN

COPY



FIGURE/FRAME	PAGES	DATE	TITLE	FROM	TO	DOCUMENT TYPE	COCORUNDER
2 A1	5	04/06/79	Letter re: Report on Structural Inspection of Auto-Ion building, as the first step in initiating emergency action through USFPA	P. Harrison, Cascade Engineers	J. Linton, USFPA	Correspondence	1
2 A6	1	04/12/77	Letter authorizing recipient to conduct responsible party cleanup at Auto-Ion	R. Villone, USFPA	Sargeant, Eastman & Son	Correspondence	2
2 A7	2	06/01/77	Letter to PRPs re: participation in RI/TS, stating that a meeting has been scheduled on 2/12/86 for EPA and PRPs, to promote good faith negotiations	P. Bellier, USFPA	PRPs	Correspondence	3
2 A9	10	07/02/79	Letter re: Consent Order to conduct RI/TS (attachment)	B. Constantinos, USFPA	Auto-Ion Steering Com.	Correspondence	4
2 C5	3	07/26/74	Letter requesting a geophysical survey in order to determine additional work required due to safety risks associated with drilling into unknown buried materials (attachment)	F. Bellier, USFPA	J. Gregg, Eastman & Son	Correspondence	5
2 C8	3	09/03/78	Letter re: proposed modification to the TS, requesting that a source control remedial action be undertaken at the site	B. Costaric, USFPA	Auto-Ion Steering Com.	Correspondence	6
2 C12	2	09/04/78	Letter confirming due date of revised	B. Costaric, USFPA	Auto-Ion Steering Com.	Correspondence	7

ADMINISTRATIVE RECORD INDEX  
AUTO-ION SITE  
KALAMAZOO, MICHIGAN

PICKE/FRANK	PAGES	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE	DOCUMENT#
			Endangerment Assessment, outlining expectations for PS				
2 C14	11	09/06/06	Notice Letter to PRPs; service list attached	N. Heidergang, USEPA	Service List	Correspondence	8
2 D11	3	07/06/06	Fact Sheet for RI/FS meeting	USEPA		Fact Sheet	9
2 D14	4	07/06/06	HCNR Fact Sheet for RI/FS meeting	HCNR		Fact Sheet	10
2-E4	8	06/06/06	State of Michigan ARARs	State of Michigan		Other	11
2 E12	71	06/08/27	Administrative Order by Consent	USEPA and Auto-Ion		Pleadings/Orders	12
3 C13	4	06/06/06	Preliminary Assessment	USEPA		Reports/Studies	13
3 D3	11	06/06/06	Report on Drum Location and Sampling	USEPA		Reports/Studies	14
3 D14	10	02/09/03	Site Investigation	HCNR	USEPA	Reports/Studies	15
3 E14	26	04/04/06	Emergency Action Plan	Toston-Sper	USEPA	Reports/Studies	16
3 G14	10	06/09/06	Final Community Relations Plan	USEPA		Reports/Studies	17
4 A10	150	07/07/22	Attachments to Work Plan for RI/FS	Woodward-Clyde Consultants	USEPA	Reports/Studies	18
5 G5	63	07/07/22	Work Plan for RI/FS	Woodward-Clyde Consultants	USEPA	Reports/Studies	19
6 E3	1	07/09/22	HCNR Progress Report #1, announcing public meeting to discuss RI/FS on 9/24/87	HCNR		Reports/Studies	20
6 E4	3	07/10/27	HCNR Progress Report #2, announcing the beginning of RI/FS fieldwork	HCNR		Reports/Studies	21

ADMINISTRATIVE RECORDS INDEX  
AUTO-LOG SITE  
EXPLANATION, NICHIGAS

FIGURE/FRAME	PAGES	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE	DOCUMENT#
6 E7	2	07/11/79	HEM Progress Report 13, announcing the completion of RI/TS fieldwork	HEM		Reports/Studies	22
6 E9	2	08/03/79	HEM Progress Report 14, announcing the continuance of RI/TS fieldwork	HEM		Reports/Studies	23
6 E11	150	08/12/79	RI Report	Bart Associates, Inc.	HEM/USDPH	Reports/Studies	24
8 D8	5	09/03/79	Preliminary Health Assessment	Center for Environ- mental Health Sciences (CEHS), and RI Dept. of Public Health (DEPH)	ATSC	Reports/Studies	25
8 D13	100	09/03/79	Review of RDPs Revised Endanger- ment Assessment (copy of Endanger- ment Assessment attached)	Jacobs Engineering Group, Inc.	USDPH	Reports/Studies	26
0 G5	3	09/06/79	HEM Progress Report 15, announcing availa- bility of final RI Report, for public review	HEM		Reports/Studies	27

**GUIDANCE DOCUMENTS INDEX**  
**AUTO-108 SITE, KALAMAZOO, MI**  
Guidance Documents are available for review at  
USEPA Region V-Chicago IL



TITLE	AUTHOR	DATE
Integrated Risk Information System (IRIS) (a computer-based health risk information system available through E-mail--brochure on access is included)	USEPA	05/00/00
Geophysical Techniques for Sensing Buried Wastes and Waste Migration	USEPA	04/00/01
Field Standard Operating Procedures Manual #4-Site Entry	OSTER Eir.9203.2-01	05/01/01
Field Standard Operating Procedures Manual #8-Air Surveillance	OSTER Eir.9203.2-03	05/01/01
Field Standard Operating Procedures Manual #6-Work Zones	OSTER Eir.9203.2-04	05/04/01
Field Standard Operating Procedures Manual #9-Site Safety Plan	OSTER Eir.9203.2-05	05/04/01
Interim Guidance on Superfund Selection of Remedy	OSTER Eir.09355.0-19	05/00/00
Policy on Flood Plains and Wetland Assessments for CERCLA Actions	OSTER Eir.9200.0-02	05/00/01
Covers for Uncontrolled Hazardous Waste Sites	US Corps of Engineers	05/09/01
Handbook Remedial Action at Waste Disposal Sites	USEPA	05/10/01

GUIDANCE DOCUMENTS INDEX  
 AUTO-LOG SITE, KALAMAZOO, MI  
 Guidance Documents are available for review at  
 USEPA Region V-Chicago IL

TITLE	AUTHOR	DATE
(Revised)		
CERCLA Compliance With Other Environmental Statutes	OSWER Dir. 92234.6-2	05/15/92
Endangerment Assessment Guidance	OSWER Dir. 92096.6-1	05/11/92
Handbook for Stabilization/Solidification of Hazardous Waste	US Corps. of Engineers	06/06/91
ATSDR Health Assessments on RFS Sites	Dept. of Health & Human Services	06/06/91
Superfund Public Health Evaluation Manual	OSWER Dir. 92203.4-1	06/10/91
Test Methods for Evaluating Solid Waste. Laboratory Manual, Physical/Chemical Methods. Third Edition (Vols. IA, IB, IC, and II)	OSWER	06/11/91
Guidelines for Ground-Water Classification Under the RFS Ground-Water Protection Strategy	USEPA-Office of Ground-Water Protection	06/12/91
Final Guidance for the Coordination of ATSDR Health Assessment Activities With the Superfund Remedial Process	OSWER Dir. 92203.4-02	07/09/91
EPA's Implementation of the Superfund Amendments and Reauthorization Act of 1986	USEPA	07/09/91

**GUIDANCE DOCUMENTS INDEX**  
**AUTO-ION SITE, KALANAZOO, RI**  
Guidance Documents are available for review at  
USEPA Region V-Chicago IL

TITLE	AUTHOR	DATE
Guidelines and Specifications for Preparing Quality Assurance Program Documentation	USEPA	07/06/81
Land Disposal Restrictions	USEPA	07/08/81
Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses	USEPA	08/02/81
Superfund Exposure Assessment Manual	OSWER Dir. #9205.5-1	08/04/81
Interim Guidance on Potentially Responsible Party Participation in Remedial Investigations and Feasibility Studies	OSWER Dir. #9035.1a	08/05/80
Community Relations in Superfund: A Handbook (Interim Version)	OSWER Dir. #9236.6-030	08/06/81
CERCLA Compliance With Other Laws Manual	OSWER Dir. #9236.1-61	08/08/80
Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA	OSWER Dir. 9355.3-61	08/10/81

see No. 1  
3/04/89

ADMINISTRATIVE RECORD INDEX - UPDATE #1  
AUTO-ION SITE  
TALAHASSEE, FLORIDA

PICER/NAME	PAGES	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE	DOCUMENT#
	1	09/08/21	Letter stating that ERM concurs with the selected remedy outlined in the Proposed Plan	J. Fruchan, ERM	H. Gade, USEPA	Correspondence	1
	1	09/08/22	Letter from resident, stating giving notice that contamination from Auto Ion site has contaminated adjoining property	R. McCallan, resident	D. O'HJordan, USEPA	Correspondence	2
	1	09/09/01	Letter commenting on Proposed Plan and Feasibility Study	R. Butler, on behalf of Faultless Center	D. O'HJordan, USEPA	Correspondence	3
	1	09/09/01	Letter commenting on Proposed Plan for soil remediation operable unit	K. Donahoe, on behalf of Brunswick	D. O'HJordan, USEPA	Correspondence	4
	8	09/09/01	Letter commenting on Proposed Plan	R. Junia, on behalf of Auto-Ion steering committee	D. O'HJordan, USEPA	Correspondence	5
	1	09/09/26	Letter of concurrence with selected remedy as outlined in the ROP	D. Becker, ERM	V. Adamus, USEPA	Correspondence	6
	191	09/06/00	Final Draft PS Report for Operable Unit One (with additions 7/19/89)	Fred Hart Associates	Auto Ion Steering Comm.	Reports/Studies	7
	263	09/06/00	Final Draft PS Report for Operable Unit One (Vol. 2 - Appendices)	Fred Hart Associates	Auto Ion Steering Comm.	Reports/Studies	8
	61	09/09/27	Record of Decision(ROD) with Administrative Record attached	V. Adamus, USEPA		Reports/Studies	9

ADMINISTRATIVE RECORD INDEX  
REMEDIAL ACTION  
AUTO ION SITE - UPDATE NO. 2  
KALAMAZOO, MICHIGAN

FICHE/FRAME	PAGES	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE	DO
106	91/10/00	Remedial Design/ Remedial Action Quality Assurance Project Plan (QAPP) Revision #2 - for Auto Ion Site	Eder Associates Consulting Engineers	USEPA	Reports/Studies	1	
430	91/09/19	Final Remedial Design/ Remedial Action Quality Assurance Project Plan (QAPP) Revision #2 for Auto Ion Site (Attachment to the Eder Associates Consulting document)	Vadsworth/Alert Laboratories	USEPA	Reports/Studies	2	
142	91/10/00	Final Remedial Design/ Remedial Action Health and Safety Plan for Auto Ion Site	Eder Associates Consulting Engineers	USEPA	Reports/Studies	3	
71	91/10/00	Final Operable Unit 1 Remedial Design/Remedial Action Work Plan for Auto Ion Site	Eder Associates Consulting Engineers	USEPA	Reports/Studies	4	
3	91/12/03	Memorandum re: QAPP Amendment for Additional Surface Water Sampling at Auto Ion Site	Deborah Orr, USEPA	Auto Ion File	Memorandum	5	

U.S. EPA ADMINISTRATIVE RECORD  
 AUTO ION SITE  
 KALAMAZOO, MICHIGAN  
 OPERABLE UNIT #1  
 UPDATE #3  
 11/16/93

14

NO	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
----	----	-----	-----	-----	-----
1	08/08/89	U.S. EPA	Public	Fact Sheet: Proposed Plan for Soil Cleanup	8
2	10/18/93	U.S. EPA	Public	Letter re: Progress of Soil Cleanup and Discussion of Various Issues Relating to the Auto Ion Superfund Site	8

U.S. EPA ADMINISTRATIVE RECORD  
 AUTO ION SITE  
 KALAMAZOO, MICHIGAN  
 OPERABLE UNIT #2  
 UPDATE #1  
 11/16/93

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DOC#	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
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1	03/08/91	McLeod, M., Elder Associates Consulting Engineers, P.C.	Orr, D., U.S. EPA	Alternatives Array Document for Operable Unit II w/Cover Letter	72
2	03/00/93	Conestoga-Rovers & Associates	U.S. EPA	Sediment Toxicity Evaluation Report, Final	83
3	09/29/93	Geitka, M., MDNR	McAteer, M., U.S. EPA	Letter re: MDNR's Review and Comments Concerning the Sediment Toxicity Evaluation Report w/Attachment	4
4	10/18/93	U.S. EPA	Public	Letter re: Progress of Soil Cleanup and Discussion of Various Issues Relating to the Auto Ion Superfund Site	8

U.S. EPA ADMINISTRATIVE RECORD  
 AUTO ION SITE  
 ALMAZOO, MICHIGAN  
 OPERABLE UNIT #2  
 UPDATE #2  
 12/11/94

AR

NO.	DATE	FROM	TO	SUBJECT	PAGES
1	1-22/93	EPA	U.S. EPA	Guidance: EPA Operational Memorandum #1, Revision #2: Analytical Detection Level Guidance for Environmental Contamination Response Activities Under Act 337 Rules	24
2	1-16/93	EPA	U.S. EPA	Guidance: EPA Operational Memorandum #5, Revision #2: Type B Criteria Rules	15
3	8-20/93	Thorne, C.	McInteer, M., U.S. EPA	Letter re: Comments Concerning the Auto Ion Study	2
4	8-20/93	EPA	U.S. EPA	Guidance: Operational Memorandum #14: Generic Remedial Action Plans Using Industrial Site Risk Assessment Cleanup Criteria: Other Requirements for Type C Remedial Action Plans	27
5	11/00/93	Eder Associates Consulting Engineers, P.C.	U.S. EPA	Final Feasibility Study for Operable Unit II (Appendices A-M)	285
6	11/00/93	Eder Associates Consulting Engineers, P.C.	U.S. EPA	Final Feasibility Study for Operable Unit II w/U.S. EPA Letter of March 4, 1994 Containing Modifications	278
7	12/13/93	Leitka, M., DNR	McInteer, M., U.S. EPA	DNR's Comments on the Final Feasibility Study Report - Cover Letter	16
8	12-22-93	Thorne, C., Kalamazoo County Board of Commissioners	McInteer, M., U.S. EPA	Letter re: Request to U.S. EPA Staff to Attend January 11, 1994 Committee of the Whole Meeting	1
9	12/17/94	Thorne, C.	McInteer, M., U.S. EPA	Letter re: Comments Concerning U.S. EPA Presentation at January 11, 1994 Kalamazoo County Board Meeting	2
10	12-24/94	City M., Office of Kalamazoo City Manager	McInteer, M., U.S. EPA	Letter re: Location of Auto Ion Site in a General Manufacturing District w/Attached Zoning and Land Use Maps	3
11	12/10/94	Thompson, S., Southeastern Michigan Planning Council	McInteer, M., U.S. EPA	Resolution Passes on Kalamazoo River Area of Concern Public Advisory Council Concerning Groundwater Cleanup w/Cover Letter	3

NO.	DATE	FROM	TO	TITLE DESCRIPTION	PAGES
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11	12/20/74	McIntosh, A. J.S. EPA	McIntosh, A. J.S.	Responses to WAP's December 10, 1973 Comments on the Final Feasibility Study Report & Cover Letter	21
12	12/24/74	McIntosh, A. J.S. EPA	Clark, E. J. Associates Consulting Engineers, P.C.	Comments and Modifications to Final Feasibility Study Report, December 10, 1973 w/Cover Letter	4

U.S. EPA ADMINISTRATIVE RECORD  
 AUTO IN SITE  
 ALAMAZOO, MICHIGAN  
 GROUNDWATER UNIT #2  
 PD# 12 #3  
 4/11/84

DATE	TIME	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
DATE	TIME	ADDRESS	ADDRESS	ADDRESS	ADDRESS
1	11:54	U.S. EPA	Public	Fact Sheet: Proposed Plan, Groundwater Operable Unit	8
1	11:54	U.S. EPA	Public	Public Notice: Announcement of Proposed Plan, Comment Period, and April 11, 1984 Public Meeting for the Groundwater Operable Unit	1

U.S. EPA ADMINISTRATIVE RECORD  
AUTO TON SITE  
KALAMAZOO, MICHIGAN  
OPERABLE UNIT #2  
UPDATE #4  
05/09/94

AR

CODE =====	DATE =====	AUTHOR =====	RECIPIENT =====	TITLE/DESCRIPTION =====	PAGES =====
	04/22/94	Peninger, C. Gerger-foretti Recording	U.S. EPA	Transcript of April 6, 1994 Proposed Plan Public Meeting	102

U.S. EPA ADMINISTRATIVE RECORD  
AUTO ION SITE  
KALAMAZOO, MICHIGAN  
OPERABLE UNIT #2  
UPDATE #5  
07/15/94

AR

DOC#	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	06/23/94	Holtzer, R. and Kimbrough, D., U.S. EPA	Public	Summary of Issues and Concerns Raised by the Public at the June 14, 1994 Public Meeting w/Cover Letter	7

U.S. EPA ADMINISTRATIVE RECORD  
 AUTO ION SITE  
 KALAMAZOO, MICHIGAN  
 OPERABLE UNIT #2  
 UPDATE #6  
 08/25/94

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DOC# =====	DATE =====	AUTHOR =====	RECIPIENT =====	TITLE/DESCRIPTION =====	PAGES =====
1	00/00/94	Various	Various	Letters and Memoranda re: U.S. EPA's Proposed Plan for Cleanup	26
2	02/07/94	Levin, C., U.S. SENATE	Browner, C., U.S. EPA	Letter Requesting Response to Attached Letter Received from the Kalamazoo River Protection Association	2
3	02/24/94	Adamskus, V., U.S. EPA	Levin, C., U.S. SENATE	Letter in Response to February 7, 1994 Letter re: Concerns of the Kalamazoo River Protection Association	2
4	04/13/94	Mehne, C.	Leveque, L., U.S. EPA	Letter re: Comments on the Remedial Plan for Groundwater	3
5	04/14/94	Coombs, B., KTS Industries, Inc.	Leveque, L., U.S. EPA	Letter in Support of the Proposed Plan for Cleanup	2
6	04/20/94	Moore, J., Ericsson Network Systems, Inc.	Leveque, L., U.S. EPA	Letter in Support of U.S. EPA's Proposed Plan for Cleanup	1
7	05/05/94	Powers, M., Kalamazoo County Board of Commissioners	Browner, C., U.S. EPA	Letter re: U.S. EPA Proposed Plan for Cleanup w/Attached Correspondence	8
8	05/24/94	McAteer, M., U.S. EPA	Powers, M., Kalamazoo County Board of Commissioners	Letter re: U.S. EPA's Proposed Plan and Record of Decision w/Attached Summary Report	74
9	05/25/94	Geitka, M., MDNR	McAteer, M., U.S. EPA	Letter re: MDNR's Comments on the Proposed Plan	4
10	05/31/94	Adamskus, V., U.S. EPA	Powers, M., Kalamazoo County Board of Commissioners	Letter in Response to May 5, 1994 Letter re: Comments and Concerns Regarding U.S. EPA's Proposed Plan for Cleanup	6
11	06/14/94	Powers, M., Kalamazoo County Board of Commissioners	U.S. EPA	Letter re: Comments Concerning Cleanup Standards	2
12	06/22/94	Muno, W., U.S. EPA	Powers, M., Kalamazoo County Board of Commissioners	Letter in Response to Comments Concerning June 14, 1994 Public Meeting and Request for a Technical Summary Report	1

DOC# ----	DATE ----	AUTHOR -----	RECIPIENT -----	TITLE/DESCRIPTION -----	PAGES -----
13	06/22/94	Fox, J., Gerger-Nor- etti Reporting	U.S. EPA	Transcript of July 14, 1994 Auto Ion Superfund Site Hearing (UNSIGNED)	77
14	06/23/94	Levin, C., U.S. SENATE	Adams, V., U.S. EPA	Letter re: U.S. EPA's Cleanup Proposal	1
15	06/23/94	Miller, C.	Leveque, L., U.S. EPA	Letter re: Comments on U.S. EPA's Proposed Plan for Cleanup	2
16	06/28/94	Stansbury, J., Whirlpool Corporati- on	Leveque, L., U.S. EPA; et al.	Letter in Support of U.S. EPA's Proposed Plan for Cleanup	1
17	07/08/94	Hamm, B., Eastman & Smith	Leveque, L., U.S. EPA	Letter re: Auto-Ion Steering Committee's Com- ments Concerning the U.S. EPA's Selected Remedy	10
18	07/14/94	Adams, V., U.S. EPA	Levin, C., U.S. SENATE	Letter in Response to June 23, 1994 Letter re: the Proposed Plan for Cleanup	2
19	07/18/94	Treiman, J.	Kiebrogh, D., U.S. EPA	Letter Objecting to U.S. EPA's Proposed Plan for Cleanup	1
20	07/18/94	Mykhais, B.	Kiebrogh, D., U.S. EPA	Letter re: Comments on U.S. EPA's Proposed Plan for Cleanup	2

## STATE OF MICHIGAN



JOHN ENGLER, Governor

## DEPARTMENT OF NATURAL RESOURCES

Stevens T. Mason Building, P.O. Box 30081, Lansing, MI 48909

ROLAND HARRISS, Director

September 30, 1994

## NATURAL RESOURCES

## COMMISSION

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Mr. Valdas V. Adamkus, R-19J  
Administrator, Region 5  
U.S. Environmental Protection Agency  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

Dear Mr. Adamkus:

The Michigan Department of Natural Resources (MDNR) has reviewed the draft Record of Decision (ROD) for the Auto Ion Superfund site (Operable Unit 2) located in Kalamazoo County, Michigan, and evaluated the public comments regarding that proposal. The MDNR cannot concur with the U.S. Environmental Protection Agency's (EPA) recommended Alternative 2-Natural Attenuation/Institutional Controls at this time because inadequate data and improper scientific evaluation procedures were used to develop the selected alternative. If new data is collected on the quality of the groundwater venting to the Kalamazoo River, it is properly analyzed, and the Water Resources Commission Act, 1929 PA 245, as amended, is amended as is being considered, the MDNR may be able to concur with the remedy in the future.

The MDNR maintains that Act 245 is an Applicable or Relevant and Appropriate Requirement for the Auto Ion site. The purpose of Act 245 is, in part, "to provide for control over the pollution of any waters of the state and the Great Lakes" and "prohibit pollution of any waters of the state and the Great Lakes." R 323.1057, Toxic Substances, Rule 57, states that "allowable levels of toxic substances shall be determined by the commission using appropriate scientific data." This law applies to any discharges to surface water, including those from groundwater.

The Surface Water Quality Division (SWQD) has completed a review to determine site-specific discharge limitations and believes that the groundwater is discharging to surface water at levels above those allowable under Act 245 and at levels inconsistent with numerous other surface water protection programs (Lakewide Management Plan, International Joint Commission's Great Lakes Water Quality Agreement, the Remedial Action Plan and the EPA's National Toxics Rule).



Mr. Valdas V. Adamkus

-2-

September 30, 1994

At this time, the Michigan Water Quality Standards do not allow mixing zones. A proposal is currently being considered by the SMQO to implement mixing zones for groundwater venting situations similar to the mixing zone concept now being used for point source discharges. If Act 245 or its administrative rules are ultimately amended to allow mixing zones, it is anticipated that the amendment would preclude the use of mixing zones for a list of bioaccumulative compounds and that no discharges would be allowed to exceed the Final Acute Value (FAV) in the mixing zone. If the following issues are adequately addressed and Act 245 is amended, the state would be able to concur with the natural attenuation alternative.

The historical data indicate that several constituents are being discharged at concentrations above the acute toxicity levels as determined by the SMQO and that mercury, a bioaccumulative toxicant, is present in 33% of the site groundwater samples. Since most of the data used to calculate the loadings of contaminants to the river are several years old and predates cleanup efforts, use of new groundwater data from monitoring wells and proper groundwater/surface water interface (GSI) locations is necessary prior to selection of a remedy. New data could eliminate future mixing zone problems if it demonstrates current contaminant discharge levels are below FAV values and bioaccumulative compounds are no longer being discharged.

Also, the calculations of the GSI model used by the Potentially Responsible Parties to justify compliance with Act 245 have been found to depict groundwater to surface water discharge levels that are in error by an order of magnitude. Therefore, the model needs to be appropriately applied to be used as part of the analysis.

According to the MDNR's review, the criteria required to allow for the use of Alternate Concentration Limits have not been met. The EPA's declaration of no adverse impact to human health or the environment is not supported by the Sediment Toxicity Study. An adverse growth impact was detected but was attributed to upstream contamination without any data to substantiate the attribution. Review by the MDNR deemed this study inconclusive, at best. Further efforts must be undertaken to better characterize the cause of the adverse impact and the source of the contaminants. If further efforts sufficiently demonstrate that there is no impact, then the natural attenuation alternative may be acceptable. This could be done through carefully placed wells to monitor the GSI, as well as additional study(s) to adequately determine the source of the adverse impact to the aquatic organisms.

As you are aware, there is significant public opposition to the selected groundwater remedy. The public has repeatedly raised questions about the rationale used in the EPA's decision-making process, as well as the decisions made. A careful review of the public reaction to the draft ROD is strongly advised, since the citizens believe that their concerns have not been given adequate consideration by the EPA.

Mr. Valdas V. Adamkus

-3-

September 30, 1994

If you have questions or concerns, please contact Mr. William F. Bradford, Chief, Superfund Section, Environmental Response Division, at 517-335-3393, or you may contact me.

Sincerely,



Russell J. Harding  
Deputy Director  
517-373-7917

cc: Ms. Jodi Traub, EPA  
Ms. Wendy Carney, EPA  
Mr. Michael McAteer, EPA  
Mr. Alan J. Howard, MDNR  
Mr. William F. Bradford, MDNR  
Auto Ion Site file

**APPENDIX B**  
**SCOPE OF WORK**

**STATEMENT OF WORK FOR  
REMEDIAL DESIGN AND REMEDIAL ACTION  
AT  
AUTO ION SUPERFUND SITE (OPERABLE UNIT 2)  
KALAMAZOO COUNTY, MICHIGAN**

**I. PURPOSE**

The purpose of this Statement of Work (SOW) is to set forth requirements for implementation of the remedial action set forth in the Record of Decision (ROD), which was signed by the Regional Administrator of U.S. EPA Region V on September 23, 1994, for the Auto Ion Site - Operable Unit 2 (Site). The Settling Defendants shall implement the ROD, the SOW, the approved Remedial Design Work Plan (RD Work Plan) following U.S. EPA Superfund Remedial Design and Remedial Action Guidance and any additional applicable guidance provided by U.S. EPA in submitting deliverables for designing and implementing the remedial action at the Auto Ion Site.

**II. DESCRIPTION OF THE REMEDIAL ACTION/PERFORMANCE STANDARDS**

Settling Defendants shall design and implement the Remedial Action to meet the performance standards and specifications set forth in the ROD and this SOW and those developed pursuant to the ROD and this SOW. Performance standards shall include standards of control, cleanup standards, quality criteria and other substantive requirements, criteria or limitations including all Applicable or Relevant and Appropriate Requirements (ARARs) set forth in the ROD, SOW and/or Consent Decree as appropriate to this Remedial Action.

**1. Access**

Settling Defendants shall use best efforts to secure access to the Auto Ion Site to the extent that the Site, or other areas where Work is to be performed hereunder, is presently owned by persons other than the Settling Defendants. Settling Defendants shall use best efforts to secure from the State of Michigan, or present owners, access for Settling Defendants' contractors, the United States and the State and their authorized representatives, as necessary to effectuate the Consent Decree and this SOW, including the installation and monitoring of groundwater monitoring wells on the Auto Ion Site, as well as securing access from such persons for any surrounding properties.

**2. Site Security**

The Settling Defendants shall maintain the current fence at the Site to prevent access and vandalism to the Site. The fence shall be maintained until such time as U.S. EPA grants permission for the fence to be removed. Fencing of the Site presently consists of a chain link fence around the perimeter of the Site which is a minimum of six-feet high with a minimum of three-strand barbed wire. The fencing at the southeast corner of the Site (near the bridge at Mills Street) shall be maintained at 12 feet high to prevent access from the bridge. Settling Defendants shall maintain the current warning signs which are posted along the fence on the north and west sides of the Site. The warning signs advise that the area is a Superfund Site and that trespassing is prohibited.

**3. Institutional Controls/Deed Restrictions**

Settling Defendants shall use best efforts to have the State of Michigan, or any successor owner of the Site, execute the deed restrictions in Appendix E of the Consent Decree. Within 30 days after the State of Michigan executes and delivers the deed restrictions in Appendix E of the Consent Decree, Settling Defendants shall record with the Kalamazoo County Recorder of Deeds a copy of the deed restrictions.

**4. Installation and Operation of Monitoring Program for Remedial Action**

Settling Defendants shall implement a groundwater monitoring program for the purposes of establishing Alternate Concentration Limits (ACLs) and to evaluate and ensure that the construction and implementation of the Remedial Action complies with approved plans and design documents and performance standards as are referenced in this SOW. Settling Defendants shall submit a monitoring program to U.S. EPA as part of the Remedial Design Work Plan (RD Work Plan), which shall address the specific components of the remedial action listed below.

**A. Installation of Groundwater Monitoring Wells**

Monitoring wells in the glacial material aquifer shall be installed in accordance with the RD Work Plan to provide data on the quality of groundwater beneath the Site for the full depth of the aquifer. The number, locations, and depths of the wells shall be sufficient to characterize groundwater quality before its discharge to the Kalamazoo River. The monitoring well network is detailed in Appendix D of this SOW. If any of the monitoring wells is destroyed or in any way becomes unusable, the Settling Defendants shall repair or replace such well within 30 days of discovery of damage or destruction, unless the monitoring well has been approved by U.S. EPA for removal from the approved monitoring network.

**B. Establishment of ACLs/Groundwater Monitoring**

- i. Settling Defendants shall propose a plan for establishing ACLs for Site groundwater that is consistent with Resource Conservation and Recovery Act (RCRA) guidance provided by U.S. EPA.

The primary method for ACL development will involve calculations of the mass loading of chemical(s) of concern from the groundwater to the Kalamazoo River and the resultant concentration(s) after mixing in the Kalamazoo River. The chemicals of concern are listed in Appendix E of this SOW.

Alternately, at EPA's discretion, the ACLs shall be developed based on the current level of contamination of the groundwater well (using a significance level of at least 1%). Settling Defendants' plan shall be reviewed and approved by U.S. EPA, in consultation with MDEQ. To quantify the current contamination levels, baseline groundwater quality levels shall be established. Settling Defendants shall establish these levels through sampling for 8 consecutive quarters over the first two year period of the Remedial Action (RA).

Within 30 days following construction of monitoring wells, Settling Defendants shall sample monitoring wells identified in the approved RD Work Plan on a quarterly basis for the first two years, and analyze all organics and inorganics, which are listed on U.S. EPA's Target Compound List (TCL), Region V, Model QAPP, dated June 6, 1991, and Target Analyte List (TAL) (see Appendix A of this SOW). Settling Defendants shall not analyze for pesticides/PCBs. All samples collected shall be unfiltered unless the sample(s) exhibit excessive turbidity, in which case field filtering may be allowed, with U.S. EPA approval. The samples will be collected only after two weeks of continuous steady-state flow towards the river is observed. The Settling Defendants shall also analyze samples from upgradient monitoring wells for the same parameters and at the same frequency during this two year period. The data from the first two years of sampling may be used by U.S. EPA in consultation with MDEQ to establish a preliminary list of ACLs. After the first two-year period, monitoring will be conducted for three years on a quarterly basis. The samples collected during this time period will be analyzed for the same parameters as during the first two-year period (TCL and TALs, except pesticides/PCBs).

Samples will be analyzed using U.S. EPA methods which are capable of achieving the quantitation limits shown in Appendix A.

The protocol for sampling shall be developed by the Settling Defendants in the RD Work Plan with the objective of gathering representative data of groundwater quality and its variation over a two year period. A statistical test, to be approved by U.S. EPA in consultation with MDEQ, which accounts for the variation of the groundwater sampling data shall be employed by the Settling Defendants to set and measure compliance, and shall be equivalent to the method outlined in 40 CFR Part 264.97(h) and/or any applicable U.S. EPA statistical guidance approved by U.S. EPA for the Site.

Settling Defendants shall continue to take samples and analyze the groundwater at and adjacent to the Site in accordance with the requirements below. Compliance monitoring shall be conducted by the Settling Defendants in accordance with this SOW, and consistent with the Consent Decree.

- ii. After establishment of ACLs by U.S. EPA in consultation with MDEQ, the Settling Defendants shall sample and analyze the groundwater on a quarterly basis each year for the next 3 years. At the end of this 3 year period, following U.S. EPA evaluation and approval, Settling Defendants shall sample and analyze the groundwater on either an annual or semi-annual basis. The sampling frequency and final parameter list shall be determined based upon the results of the first five years of monitoring data, and shall be subject to the approval of U.S. EPA, in consultation with MDEQ. After the first five-year period, monitoring will be conducted for the list of chemicals of concern identified in the ROD (see also Appendix E of this SOW). Additional parameters may be included on the basis of the results from the first five-year monitoring period. The additional parameters may include those which are positively detected and that are exceeding either the Michigan Act 245, Rule 57 (and Rule 82 as applicable) Groundwater/Surface Water Interface (GSI) Values or U.S. EPA's Maximum Contaminant Levels (MCLs) (whichever is more stringent at the time groundwater sampling commences). Sampling shall only proceed after a minimum of two weeks of continuous steady-state flow towards the river is observed.

Except as otherwise provided below in this paragraph, Settling Defendants shall continue groundwater sampling and analysis of Point of Compliance (POC) wells until the following performance standard is achieved:

For a period of eight consecutive sampling events, groundwater concentrations are at or below Michigan Act 245, Rule 57 (and Rule 82 as applicable) Groundwater/Surface Water Interface (GSI) Values or U.S. EPA's Maximum Contaminant Levels (MCLs) (whichever is more stringent at the time groundwater sampling commences) (see Appendix B of this SOW).

Further, when an individual analyte has achieved the performance standard, the Settling Defendants shall submit to U.S. EPA for its approval, in consultation with MDEQ, a petition to cease monitoring for that analyte.

When all analytes in a monitoring well have achieved the performance standard, the Settling Defendants shall submit to U.S. EPA for its approval, in consultation with MDEQ, a petition to cease the monitoring of that specific monitoring well. The Settling Defendants shall continue to sample monitoring wells for the approved list of analytes until a petition to cease monitoring is approved in writing by U.S. EPA, in consultation with MDEQ, for each well.

The Settling Defendants may conduct an evaluation of the trend in groundwater concentrations with time on a regular basis (i.e. every 5 years) in order to determine whether the concentrations of individual chemicals exhibit increasing or decreasing trends. Based on this evaluation, the Settling Defendants may submit to U.S. EPA for its approval, in consultation with MDEQ, a petition to make reductions in the parameter list and/or the number of wells being monitored. The petition may, in part, be considered by U.S. EPA as part of its five-year review process described below.

If the data collected from the sampling indicates that the groundwater monitoring program is inadequate in providing information on the levels or movement of contaminated groundwater, U.S. EPA, in consultation with MDEQ, may require the installation of additional groundwater monitoring wells and laboratory analysis of samples from such wells and/or laboratory analysis of additional sampling parameters.

Notwithstanding the above performance standard, the groundwater monitoring may be either terminated or modified after a determination by U.S. EPA, in consultation with MDEQ, that the groundwater conditions either do not warrant further monitoring or warrant modification of the monitoring program, except that no determination to terminate monitoring entirely shall be made by U.S. EPA within a period of eight consecutive sampling event of any ACL exceedance. This determination would be made, in part on the basis of all available monitoring data, as well as the statistical analysis or other evidence submitted by the Settling Defendants, and may be conducted at 5 year intervals. The first review may be conducted 5 years following the commencement of groundwater monitoring.

**C. Points of Compliance**

Point-of-Compliance (POC) wells are identified in Appendix D of this SOW.

**5. Contingency Plan/Remedial Action Plan**

If an established ACL is exceeded for 2 consecutive sampling events, then a Remedial Action Plan (RAP) shall be implemented to address the ACL exceedance. In the event the ACL for mercury is exceeded, the next confirmational sampling event shall be completed by the Settling Defendants within 30 days of receipt of the data from the initial sampling event. The RAP shall be developed by the Settling Defendants as part of the RD Work Plan. U.S. EPA, in consultation with MDEQ, shall review and approve the final RAP. The RAP shall consist of pre-determined response actions to address ACL exceedances. The RAP shall be designed to further evaluate, and, if necessary, mitigate an impact by contaminants to the Kalamazoo River or a threat to human health and the environment.

In the event of an ACL exceedance, the first response action will involve assessing the validity of the data. If U.S. EPA determines the data to be valid, then additional potential responses will be considered. Examples of additional potential responses which U.S. EPA could approve, in consultation with MDEQ, include, but are not limited to, evaluation of groundwater concentration after mixing with surface water and comparison to Federal surface water quality criteria to determine significance of ACL exceedance, confirmational sampling, increased sampling frequency, determination of impact to Kalamazoo River through surface water, sediment and biota sampling, and implementation of an appropriate alternate remedial action designed to mitigate any threats to human health or the environment, e.g., installation of a groundwater extraction/treatment system.

**III. SCOPE OF REMEDIAL DESIGN AND REMEDIAL ACTION**

The Remedial Design/Remedial Action shall consist of the following two major tasks. All plans are subject to U.S. EPA's approval in consultation with the MDEQ.

**Task 1: RD Work Plan**

- A. Monitoring Well Installation Plan**
- B. ACLs Establishment/ Groundwater Monitoring Plan**
- C. Contingency Plan/Remedial Action Plan**
- D. Quality Assurance Project Plan**
- E. Health and Safety Plan**
- F. Operation and Maintenance Plan**

**Task 2: Remedial Action/Construction (groundwater well installation and monitoring)**

- A. Groundwater Monitoring Reports
- B. Certification of Completion of Remedial Action
- C. Certification of Completion of Work

**Task 1: Remedial Design Work Plan**

The Settling Defendants shall submit for U.S. EPA review and approval in consultation with MDEQ a RD Work Plan which shall document the overall management strategy for performing the design, construction, operation, maintenance and monitoring of Remedial Action. The plan shall document the responsibility and authority of all organizations and key personnel involved with the implementation of the RD and RA and shall include a description of qualifications of key personnel directing the RD and RA, including contractor personnel. If necessary, U.S. EPA will notify the Settling Defendants of any objections to key personnel in accordance with the Consent Decree. The Work Plan shall also include a schedule of RD and RA activities. The Settling Defendants shall submit the RD Work Plan in accordance with this SOW and the Consent Decree.

The Work Plan shall also contain the following:

- A. Monitoring Well Installation Plan: (See Section II.4.A above)
- B. ACLs Establishment Plan/Groundwater Monitoring Plan: (See Section II (4)(B) above)
- C. Contingency Plan/Remedial Action Plan: (See Section II (5) above)
- D. Quality Assurance Project Plan:

The Settling Defendants shall develop a Site specific Quality Assurance Project Plan (QAPP), covering sample analysis and data handling for groundwater samples collected in all phases of Site work to be performed, in accordance with this SOW, the Consent Decree, and guidance provided by U.S. EPA. The QAPP shall be consistent with the requirements specified in "Region V Model Superfund Quality Assurance Project Plan (QAPP)" U.S. EPA Region V, May 1991, and "Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans", EPA QAMS-005/80, 1991. The QAPP shall at a minimum include:

- 1. Project Description
  - \* Facility Location History
  - \* Past Data Collection Activity

- \* Project Scope
  - \* Sample Network Design
  - \* Parameters to be Tested (those listed in Appendix A and the established ACLs) and Testing Frequency
  - \* Project Schedule
2. Project Organization and Responsibility
  3. Quality Assurance Objective for Measurement Data
    - \* Level of Quality Control Effort
    - \* Accuracy, Precision and Sensitivity of Analysis
    - \* Completeness, Representativeness and Comparability
  4. Sampling Procedures
  5. Sample Custody
    - \* Field Specific Custody Procedures
    - \* Laboratory Chain of Custody Procedures
  6. Calibration Procedures and Frequency
    - \* Field Instruments/Equipment
    - \* Laboratory Instruments
  7. Analytical Procedures
    - \* Non-Contract Laboratory Program Analytical Methods
    - \* Field Screening and Analytical Protocol
    - \* Laboratory Procedures
  8. Internal Quality Control Checks
    - \* Field Measurements
    - \* Laboratory Analysis
  9. Data Reduction, Validation, and Reporting
    - \* Data Reduction
    - \* Data Validation
    - \* Data Reporting
  10. Performance and System Audits
    - \* Internal Audits of Field Activity
    - \* Internal Laboratory Audit
    - \* External Field Audit

- \* External Laboratory Audit
11. Preventive Maintenance
    - \* Routine Preventive Maintenance Procedures and Schedules
    - \* Field Instruments/Equipment
    - \* Laboratory Instruments
  12. Specific Routine Procedures to Assess Data Precision, Accuracy, and Completeness
    - \* Field Measurement Data
    - \* Laboratory Data
  13. Corrective Action
    - \* Sample Collection/Field Measurement
    - \* Laboratory Analysis
  14. Quality Assurance Reports to Management

The Settling Defendants shall submit a draft QAPP to U.S. EPA for review and approval in consultation with MDEQ with the Draft RD Work Plan.

#### **E. Health and Safety Plan:**

The Settling Defendants shall develop a health and safety plan which is designed to protect on-site personnel and area residents from physical, chemical and all other hazards posed by this remedial action. The safety plan shall develop the performance levels and criteria necessary to address the following areas.

##### **Facility Description**

**Personnel**

**Levels of protection**

**Safe work practices and safe guards**

**Medical surveillance**

**Personal and environmental air monitoring**

**Personal protective equipment**

**Personal hygiene**

**Decontamination - personal and equipment**

**Site work zones**

**Contaminant control**

**Contingency and emergency planning**

**Logs, reports and record keeping.**

The Health and Safety Plan shall follow all OSHA requirements, as outlined in 29 CFR 1910 and 1926, and U.S. EPA guidance.

#### **F. Operation and Maintenance Plan**

The Settling Defendants shall prepare an Operation and Maintenance (O&M) Plan to cover long term operation and maintenance of the fence and the monitoring system. The O&M plan shall address routine inspections, corrective action and record keeping. In the event that the groundwater contingency plan is triggered, a separate O&M Plan may be required.

### **Task 2. Remedial Action/Construction**

The Settling Defendants shall implement the Remedial Action within 30 days of approval of the RD Work Plan. In addition to the installation of monitoring wells, the following shall be completed during the Remedial Action.

#### **1. Groundwater Monitoring Reports**

Within 60 days of completion of any groundwater sampling event, Settling Defendants shall submit a Monitoring Report to U.S. EPA and MDEQ. This report shall include copies of the lab's analytical data, summary data sheets highlighting the parameters sampled, method detection limits, quantitation limits and the analytical results. Following the establishment of ACLs, the summary data sheets shall also include the established ACL for each parameter. If analytical results indicate an exceedance of an ACL(s), the Settling Defendants shall describe the actions planned and/or initiated to confirm/mitigate the exceedance.

In the event that additional monitoring (eg. sediment sampling) is required under the groundwater contingency plan (or the RAP), a schedule will be developed for completing the testing and reporting. The schedule will be subject to approval by U.S. EPA.

#### **2. Certification of Completion of Remedial Action**

Within 30 days after the Settling Defendants conclude that the Remedial Action has been fully performed and that the Performance Standards have been attained for all POC wells, Settling Defendants shall schedule and conduct a precertification inspection to be attended by Settling Defendants, U.S. EPA, and MDEQ. If, after the pre-certification inspection, the Settling Defendants still believe that the remedial

action has been fully performed, and the performance standard have been attained, they shall submit a written report requesting certification to U.S. EPA for approval, with a copy to MDEQ, within 30 days of the inspection. In the report, a registered professional engineer and the Settling Defendants' Project Coordinator shall state that the Remedial Action has been completed in full satisfaction of the requirements of this Consent Decree. The report shall contain the following statement, signed by a responsible corporate official of a Settling Defendant or the Settling Defendants' Project Coordinator:

"To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

If EPA concludes, based on the initial or any subsequent report requesting Certification of Completion and after a reasonable opportunity for review and comment by the State, that the Remedial Action has been performed in accordance with this Consent Decree and that Performance Standards have been achieved, EPA will so certify in writing to Settling Defendants. This certification shall constitute the Certification of Completion of the Remedial Action .

### **3. Certification of Completion of Work**

Within 30 days after Settling Defendants conclude that all phases of the Work (including O & M), have been fully performed, Settling Defendants shall schedule and conduct a pre-certification inspection to be attended by Settling Defendants, U.S. EPA, and MDEQ. If, after the pre-certification inspection, the Settling Defendants still believe that the Work has been fully performed, Settling Defendants shall submit a written report by a registered professional engineer stating that the Work has been completed in full satisfaction of the requirements of this Consent Decree. The report shall contain the following statement, signed by a responsible corporate official of a Settling Defendant or the Settling Defendants' Project Coordinator:

"To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

If EPA concludes, based on the initial or any subsequent request for Certification of

Completion by Settling Defendants and after a reasonable opportunity for review and comment by the State, that the Work has been performed in accordance with this Consent Decree, EPA will so notify the Settling Defendants in writing.

#### **IV. SUMMARY OF MAJOR DELIVERABLES/SCHEDULE**

A summary of the project schedule and reporting requirements are contained below:

<b><u>Submission/Activity</u></b>	<b><u>Due Date</u></b>
1. RD Work Plan (includes Monitoring Well Installation Plan, ACLs Establishment/ Groundwater Monitoring Plan, Contingency Plan/Remedial Action Plan, QAPP, Health and Safety Plan and O&M Plan).	Sixty (60) days after effective date of Consent Decree
2. Commence Monitoring Well Construction	30 days after approval of RD Work Plan and completion of access agreements
3. Completion of Monitoring Well Construction and Development	60 days after commencement of Monitoring Well Construction
4. Commence Groundwater Monitoring and Sampling	30 days after completion of Monitoring Well Construction
5. Groundwater Monitoring Reports	60 days following collection of any groundwater samples
6. Precertification Inspection of Remedial Action	30 days following Settling Defendants determination that the Remedial Action has been completed.
7. Certification of Completion of Remedial Action	

8. **Precertification Inspection of Work**
9. **Certification of Completion of Work  
completion of Work**

**30 days following Settling Defendants  
determination that the Work has been  
completed.**

**Appendix A**

**U.S. EPA Target Compound List (TCL)**

**and**

**Target Analyte List (TAL)**

TARGET COMPOUND LIST (TCL) AND  
CONTRACT REQUIRED QUANTITATION LIMITS (CRQL)

Volatiles	CAS Number	Quantitation Limits
		Water ug/L
1. Chloromethane	74-87-3	1
2. Bromomethane	74-83-9	1
3. Vinyl Chloride	75-01-4	1
4. Chloroethane	75-00-3	1
5. Methylene Chloride	75-09-2	2
6. Acetone	67-64-1	5
7. Carbon Disulfide	75-15-0	1
8. 1,1-Dichloroethene	75-35-4	1
9. 1,1-Dichloroethane	75-34-3	1
10. cis-1,2-Dichloroethene	156-59-4	1
11. trans-1,2-Dichloroethene	156-60-5	1
12. Chloroform	67-66-3	1
13. 1,2-Dichloroethane	107-06-2	1
14. 2-Butanone	78-93-3	5
15. Bromochloromethane	74-97-5	1
16. 1,1,1-Trichloroethane	71-55-6	1
17. Carbon Tetrachloride	56-23-5	1
18. Bromodichloromethane	75-27-4	1
19. 1,2-Dichloropropane	78-87-5	1
20. cis-1,3-Dichloropropene	10061-01-5	1
21. Trichloroethene	79-01-6	1
22. Dibromochloromethane	124-48-1	1
23. 1,1,2-Trichloroethane	79-00-5	1
24. Benzene	71-43-2	1
25. trans-1,3-Dichloropropene	10061-02-6	1
26. Bromoform	75-25-2	1
27. 4-Methyl-2-pentanone	108-10-1	5
28. 2-Hexanone	591-78-6	5
29. Tetrachloroethene	127-18-4	1

TARGET COMPOUND LIST (TCL) AND  
CONTRACT REQUIRED QUANTITATION LIMITS (CRQL)  
(CONT'D.)

		Quantitation Limits	
Volatiles	CAS Number	<u>Water</u>	
		<u>µg/L</u>	
30. 1,1,2,2-Tetrachloroethane	79-34-5	1	
31. 1,2-Dibromoethane	106-93-4	1	
32. Toluene	108-88-3	1	
33. Chlorobenzene	108-90-7	1	
34. Ethylbenzene	100-41-4	1	
35. Styrene	100-42-5	1	
36. Xylenes (total)	1330-20-7	1	
37. 1,3-Dichlorobenzene	541-73-1	1	
38. 1,4-Dichlorobenzene	106-46-7	1	
39. 1,2-Dichlorobenzene	95-50-1	1	
40. 1,2-Dibromo-3-chloropropane	96-12-8	1	

TARGET COMPOUND LIST (TCL) AND  
CONTRACT REQUIRED QUANTITATION LIMITS (CROL)  
CONT'D.

Semivolatiles	CAS Number	Quantitation Limits
		Water µg/L
1. Phenol	108-95-2	5
2. bis-(2-Chloroethyl)ether	111-44-4	5
3. 2-Chlorophenol	95-57-8	5
4. 2-Methylphenol	95-48-7	5
5. 2,2'-oxybis(1-Chloropropane)	108-60-1	5
6. 4-Methylphenol	106-44-5	5
7. N-Nitroso-di-n-propylamine	621-64-7	5
8. Hexachlorocycane	67-72-1	5
9. Nitrobenzene	98-95-3	5
10. Isophorone	78-59-1	5
11. 2-Nitrophenol	88-75-5	5
12. 2,4-Dimethylphenol	105-67-9	5
13. bis-(2-Chloroethoxy)methane	11-91-1	5
14. 2,4-Dichlorophenol	120-83-2	5
15. 1,2,4-Trichlorobenzene	120-82-1	5
16. Naphthalene	91-20-3	5
17. 4-Chloroaniline	106-47-8	5
18. Hexachlorobutadiene	57-68-3	5
19. 4-Chloro-3-methylphenol	59-50-7	5
20. 2-Methylnaphthalene	91-57-6	5
21. Hexachlorocyclopentadiene	77-47-4	5
22. 2,4,6-Trichlorophenol	88-06-2	5
23. 2,4,5-Trichlorophenol	95-95-4	20
24. 2-Chloronaphthalene	91-58-7	5
25. 2-Nitroaniline	88-74-4	20
26. Dimethylphthalate	131-11-3	5
27. Acenaphthylene	208-96-8	5
28. 2,6-Dinitrotoluene	606-20-2	5
29. 3-Nitroaniline	99-09-2	20
30. Acenaphthene	83-32-9	5
31. 2,4-Dinitrophenol	51-28-5	20
32. 4-Nitrophenol	100-02-7	20
33. Dibenzofuran	132-64-9	5

TARGET COMPOUND LIST (TCL) AND  
CONTRACT REQUIRED QUANTITATION LIMITS (CRQL)  
(CONT'D.)

		Quantitation Limits	
Semi-volatiles	CAS Number	Water	
		µg/L	
34. 2,4-Dinitrotoluene	121-14-2	5	
35. Diethylphthalate	84-66-2	5	
36. 4-Chlorophenyl-phenylether	7005-72-3	5	
37. Fluorene	86-73-7	5	
38. 4-Nitroaniline	100-01-6	20	
39. 4,6-Dinitro-2-methylphenol	534-52-1	20	
40. N-Nitrosodiphenylamine	86-30-6	5	
41. 4-Bromophenyl-phenylether	101-55-3	5	
42. Hexachlorobenzene	118-74-1	5	
43. Pentachlorophenol	87-86-5	20	
44. Phenanthrene	85-01-8	5	
45. Anthracene	120-12-7	5	
46. Di-n-butylphthalate	84-74-2	5	
47. Fluoranthene	206-44-0	5	
48. Pyrene	129-00-0	5	
49. Butylbenzylphthalate	85-68-7	5	
50. 3,3'-Dichlorobenzidine	91-94-1	5	
51. Benzo(a)anthracene	56-55-3	5	
52. Chrysene	218-01-9	5	
53. bis-(2-Ethylhexyl)phthalate	117-81-7	5	
54. Di-n-octylphthalate	117-84-0	5	
55. Benzo(b)fluoranthene	205-99-2	5	
56. Benzo(k)fluoranthene	207-08-9	5	
57. Benzo(a)pyrene	50-32-8	5	
58. Indeno(1,2,3-cd)pyrene	193-39-5	5	
59. Dibenzo(a,h)anthracene	53-70-3	5	
60. Benzo(g,h,i)perylene	191-24-2	5	

TARGET COMPOUND LIST (TCCL) AND  
CONTRACT REQUIRED QUANTITATION LIMITS (CRQL)  
(CONT'D.)

Pesticides/PCBs	CAS Number	Quantitation Limits
		Water ug/L
1. alpha-BHC	319-84-6	0.01
2. beta-BHC	319-85-7	0.01
3. delta-BHC	319-36-8	0.01
4. gamma-BHC (Lindane)	58-89-9	0.01
5. Heptachlor	76-44-8	0.01
6. Aldrin	309-00-2	0.01
7. Heptachlor epoxide	1024-57-3	0.01
8. Endosulfan I	959-98-8	0.01
9. Dieldrin	60-57-1	0.02
10. 4,4'-DDE	72-55-9	0.02
11. Endrin	72-20-8	0.02
12. Endosulfan II	33213-65-9	0.02
13. 4,4'-DDD	72-54-8	0.02
14. Endosulfan sulfate	1031-07-8	0.02
15. 4,4'-DDT	50-29-3	0.02
16. Methoxychlor	72-43-5	0.10
17. Endrin ketone	53494-70-5	0.02
18. Endrin aldehyde	7421-36-3	0.02
19. alpha-Chlordane	5103-71-2	0.01
20. gamma-Chlordane	5103-74-2	0.01
21. Toxaphene	8001-35-2	1.0
22. Aroclor-1016	12674-11-2	0.20
23. Aroclor-1221	11104-28-2	0.20
24. Aroclor-1232	11141-16-5	0.40
25. Aroclor-1242	53469-21-9	0.20
26. Aroclor-1248	12672-29-6	0.20
27. Aroclor-1254	11097-69-1	0.20
28. Aroclor-1260	11096-82-5	0.20

Contract Laboratory Program  
Target Analyte List  
Inorganic Quantitation Limits

COMPOUND	PROCEDURE	SOIL WATER	SEDIMENT SLUDGE
Aluminum	ICP	200 ug/L	40 mg/Kg
Antimony	Furnace	60	2.4
Arsenic	Furnace	10	2
Barium	ICP	200	40
Beryllium	ICP	5	1
Cadmium	ICP	5	1
Calcium	ICP	5000	1000
Chromium	ICP	10	2
Cobalt	ICP	50	10
Copper	ICP	25	5
Iron	ICP	100	20
Lead	Furnace	5	1
Magnesium	ICP	5000	1000
Manganese	ICP	15	3
Mercury	Cold Vapor	0.2	0.008
Nickel	ICP	40	8
Potassium	ICP	5000	1000
Selenium	Furnace	5	1
Silver	ICP	10	2
Sodium	ICP	5000	1000
Thallium	Furnace	10	2
Vanadium	ICP	50	10
Zinc	ICP	20	4
Cyanide	Color	10	2

**Appendix B**  
**Michigan Act 245 Rule 57 Values**  
**and**  
**U.S. EPA Maximum Contaminant Levels (MCLs)**

STATE OF MICHIGAN

NATURAL RESOURCES  
COMMISSION

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## DEPARTMENT OF NATURAL RESOURCES

Stevens T. Mason Building, P.O. Box 30273, Lansing, MI 48908

ROLAND HARRIS, Director

January 31, 1995

TO: All Interested Parties

FROM: James Grant, Chief  
Great Lakes and Environmental Assessment Section  
Surface Water Quality Division

SUBJECT: Rule 57(2) Guidelines Levels

The Rule 57(2) Guidelines state that the most recent calculations of water quality-based levels of toxic substances developed pursuant to the Guidelines shall be compiled on an annual basis and be available for distribution by February 1 of each year. The following list is in fulfillment of that requirement, and is complete as of January 24, 1995. The values are subject to change as new data or information become available.

Rule 57(2) Guideline Levels are used in making water quality-based permit recommendations concerning toxic substances in the surface water after a point source discharge is mixed with the receiving stream volume specified in R323.1082. These levels do not necessarily represent acceptable ambient levels, nor do they represent or reflect necessary treatment-based considerations.

This list is informational only and is not a mechanism to establish water quality-based permit limits. It is advisory in nature and not meant to be binding on anyone.

Water quality-based permit limitations for toxic chemicals are developed by staff in the Great Lakes and Environmental Assessment Section using the R323.1057(2) Guidelines and appropriate scientific data. Questions concerning this list should be directed to Ms. Brenda Sayles, of the Great Lakes and Environmental Assessment Section, at 517-335-4198.

*Grant*



REVISED 1-31-95

CHEMICAL NAME	CAS NUMBER	Rule 57(2) Level non-Drinking Water Value (ug/l)	Section
Antimony & inorganic salts +	Class 010		50 TLSC
Arsenic #	Class 011		11 CRV
Cadmium & inorg. salt (warmwater)	Class 013	0EXP(0.7852*(PLN(SH))-4.51)	ACV
Cadmium & inorg. salt (coldwater)	Class 013	0EXP(0.7852*(PLN(SH))-4.51)	ACV
Chromium, hexavalent <240	Class 015	0EXP(0.82*(PLN(SH))-0.397)	ACV
Chromium, hexavalent >=240	Class 015	0EXP(0.82*(PLN(SH))-0.397)	ACV
Copper	Class 017	0EXP(0.34*(PLN(SH))-1.957)	ACV
Cyanide (warmwater)	Class 018		5.2 ACV
Cyanide (coldwater)	Class 018		5.2 ACV
Lead, hexavalent >=240	Class 019	0EXP(1.75*(PLN(SH))-7)	ACV
Lead, hexavalent <240	Class 019	0EXP(1.75*(PLN(SH))-7)	ACV
Nickel	Class 022	0EXP(0.92*(PLN(SH))-3.73)	ACV
Selenium & inorganic salts	Class 023		5 ACV
Silver	Class 024		3.1 ACV
Zinc	Class 027	0EXP(0.85*(PLN(SH))-0.0100)	ACV
Molybdenum	Class 031		800 TLSC
Permethrin	Class 087		18 ACV
PCB #	Class 079		0.00002 CRV
Formaldehyde	50000		170 ACV
BUT #	53293		0.00002 CRV
Phenol, 2,4-dinitro	51285		9.8 ACV
Carbon tetrachloride #	56235		21 CRV
Propylene glycol	57556		190000 ACV
Chlordane #	57749		0.00033 CRV
Lindane #	58089		0.087 CRV
Phenol, 4-chloro-3-methyl	58567		4.4 ACV
Triphenyl #	60571		0.000032 CRV
Aniline #	62533		4 ACV
Ethanol	64175		41000 ACV
Methanol	67581		41000 TLSC
Isopropyl alcohol	67639		21000 ACV
Acetone	67641		29000 TLSC
Chloroform #	67663		80 ACV
Hexachlorocyclopentadiene #	67721		13 CRV
Dimethyl formamide, H.N	68122		3000 TLSC
n-Propyl alcohol	71238		15000 TLSC
Benzene #	71432		53 TLSC
Ethane, 1,1,1-trichloro	71556		120 ACV
Bromonethane	74030		11 ACV
Nethylamine +	74085		42 ACV
Vinyl chloride #	75014		3.1 TLSC
Ethylene +	75047		440 ACV
Acetonitrile	75068		810 TLSC
Methylone chloride #	75082		50 ACV
Ethylene oxide #	75218		56 CRV
Bromofluoride	75252		65 ACV
Bromodichloromethane #	75274		24 CRV
Ethylene, 1,1-dichloro #	75354		67 ACV
Propylene oxide +	75580		190 CRV
Methyl-2-propanol, 2-	75630		6300 TLSC
Trichlorofluoromethane	75694		580 ACV
1,1,2-Trichloro, 1,2,2-trifluoroethane	76131		33 ACV
Hexachlor #	76448		0.0016 CRV
Hexachlorocyclopentadiene	77474		0.54 ACV
Isophorone #	78581		800 ACV
Propane, 1,2-dichloro #	78875		64 CRV
Methyl ethyl ketone (MEK)	78893		7200 ACV
Ethane, 1,1,2-trichloro #	79005		65 CRV
Trichloroethylene #	79018		94 ACV
Acrylamide	79061		8.1 CRV
Ethane, 1,1,2,2-tetrachloro #	79345		32 TLSC
Acenaphthene +	83329		3.8 ACV
Pentachlorobenzene #	87888		0.8 CRV
2,4,6-Trichlorophenol #	90082		1.5 CRV
3-Trifluoromethyl-4 nitrophenol (TFM)	90302	0EXP(1.2926*(PLN(SH))-6.480)	ACV
Dioxin	90057	0EXP(1.5817*(PLN(SH))-12.831)	ACV
Benzo(a)pyrene	91203		29 ACV
Benzo(a)pyrene, 3,3-dichloro #	91941		0.083 CRV
Benzo(a)pyrene #	92875		0.04 CRV

CHEMICAL NAME	CAS NUMBER	Rule 57(2) Level	Basis
		Non-Drink Water Value (ug/l)	
Silvex	93721		21 HLSC
Acetic acid, 2,4-dichlorophenoxy-	94757		47 ACV
Phenol, 2-methyl	95487		38 ACV
Benzene, 1,2-dichloro	95501		7 ACV
Phenol, 2-chloro	95578		9.8 ACV
1,2,4-Trimethylbenzene +	95636		22 ACV
Benzene, 1,2,4,5-tetrachloro	95843		0.4 HLSC
2,4,5-Trichlorophenol +	95954		25 HLSC
Ethylbenzene	100414		31 ACV
Styrene #	100425		19 CRV
Benzyl alcohol	100516		22 ACV
Phenol, 2,4-dimethyl	105679		31 ACV
p-cresol	106445		24 ACV
Benzene, 1,6-dichloro #	106487		15 CRV
Phenol, 4-chloro	106489		9.3 ACV
Ethylene dibromide #	106934		1.1 CRV*
Acrolein	107028		2.5 ACV
Ethane, 1,2-dichloro #	107062		560 CRV
Acrylonitrile #	107131		2.2 CRV*
Ethylene glycol	107211		68000 ACV
1,3,5-Trimethylbenzene +	108678		26 ACV
Toluene	108883		110 ACV
Chlorobenzene	108907		71 ACV
Phenol	108952		1100 ACV
N-butylamine +	109739		130 TLSC
Diethylamine +	109897		480 ACV
Tetrahydrofuran	109999		3300 TLSC
Pyridine	110881		20 ACV
bis(2-Chloroethyl)ether #	111444		4.2 CRV
bis(2-Chloroethoxy)methane	111911		4.6 TLSC
Dibutylamine +	111922		21 TLSC
Hexachlorobenzene #	116741		0.0019 CRV*
Benzene, 1,2,4-trichloro	120821		22 HLSC
Phenol, 2,4-dichloro	120832	9EXP(0.3588*3H)+0.7585)	ACV
Triethylamine +	121448		2000 ACV
Sinazine +	122349		3.4 ACV
Hydroquinone	123319		0.2 ACV
N-butyl acetate	123884		40 ACV
1,4-Dioxane #	123911		2000 CRV
Chlorodibromomethane #	124481		28 CRV*
Tetrachloroethylene #	127184		22 CRV
Ethyl acetate	141788		1000 ACV
Heptane	142625		4 ACV
Ethylene, t-1,2-dichloro	156805		300 ACV
Diazinon +	333415		0.002 ACV
Dinitro-o-cresol, 4,6-	534521		0.58 ACV
Benzene, 1,3-dichloro	541731		188 ACV
1,3-Dichloropropene (mixed isomers)	542758		3 ACV
1,2,3,4-Tetrachlorobenzene	634882		2.4 HLSC
EPTC +	758844		53 ACV
Mephosfolan	950107		0.38 ACV
Xylene	1330207		59 ACV
Clonitralid (Bayer 73 salt form)	1420048		5.9 ACV
Carbofuran +	1563682		1.6 ACV
Methyl tert-butyl ether	1834044		380 ACV
Tetra n-butyl ammonium bromide	1843192		300 ACV
2,3,7,8-TCDF #	1748016		0.000000014 CRV*
Atrazine +	1912249		7.8 CRV
Chlorpyrifos +	2921882		0.002 ACV
Di-n-propyl formamide	8282004		63 TLSC
Lithium	7439932		8.7 ACV
Mercury	7439978		0.0013 HLSC
Thallium	7440280		5.4 HLSC
Barium	7440393	9EXP(1.95*(0L(\$H))-3.88)	
Vanadium	7440622		6 ACV
Ammonia, unionized (warmwater)	7664417		50 ACV
Ammonia, unionized (coldwater)	7664417		20 ACV
Hydrogen peroxide	7722841		5.3 ACV
Fluorides (soluble Fluorides)	7782414		1900 TLSC

REV: SED 1-31-99

CHEMICAL NAME	CAS NUMBER	Ref: 57(2): Lev Non-Drugs section value (µg/l)	Units
Chlorine	7782905		5.8 ACV
Hydrogen sulfide	7783064		0.55 ACV
Toluene #	8001352		0.017 CRV
DEHPA	10222912		4.4 ACV
Alachlor -	5072608		48 ACV
Chlorine, monovalent	3540239		7.3 ACV
Cyanazine -	21725462		4.7 CRV
Permethrin -	40487421		0.62 ACV
Tetrachlorodibenzofuran, 2,3,7,8-	51207319		0.00022 TLSC
Metsalchlor -	51218452		150 CRV
Di(Chlorobutyl)ether	53822121		84 TLSC

**NOTES:**

- 0 - This chemical is regulated as a carcinogen. Rule 57(2) level is not necessarily based on its 1 in 100,000 cancer risk value.
- \* - Professional judgment was used - minimum data not available.
- - New or revised Rule 57(2) allowable level since January 31, 1994.

- ACV = Aquatic Chronic Value
- TSC = Terrestrial Life-Cycle Safe Concentration
- MLSC = Mammal Life-Cycle Safe Concentration
- CRV = Cancer Risk Value
- CAS = Chemical Abstract Service

**Exponential equations: e.g..**

$$0.02(0.7852 \pi (0.041(SH))^2) - 4.5 = 0$$
 where  $SH$  = hardness (mpa)

1.0051 (pH) - 5.0338  
 0.020 (1.0051 - 5.0338) =  
 where pH is in Standard Units

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**DRINKING WATER REGULATIONS  
AND HEALTH ADVISORIES**

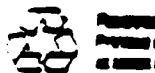
by

**Office of Water  
U.S. Environmental Protection Agency  
Washington, D.C.  
202-260-7571**

**SAFE DRINKING WATER HOTLINE  
1-800-426-4791  
Monday thru Friday, 9:00 AM to 5:30 PM EST**

**May 1995**

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## LEGEND

Abbreviations column descriptions are:

- MCLG - Maximum Contaminant Level Goal. A non-enforceable concentration of a drinking water contaminant that is protective of adverse human health effects and allows an adequate margin of safety.
- MCL - Maximum Contaminant Level. Maximum permissible level of a contaminant in water which is delivered to any user of a public water system.
- RfD - Reference Dose. An estimate of a daily exposure to the human population that is likely to be without appreciable risk of deleterious effects over a lifetime.
- DWEL - Drinking Water Equivalent Level. A lifetime exposure concentration protective of adverse, non-cancer health effects, that assumes all of the exposure to a contaminant is from a drinking water source.

(\*) The codes for the Status Reg and Status HA columns are as follows:

- Final - final
- Draft - draft
- Listed - listed for regulation
- Proposed - proposed
- Tentative - tentative

Other codes found in the table include the following:

- NA - not applicable
- PS - performance standard 0.5 NTU - 1.0 NTU
- TT - treatment technique

- No more than 5% of the samples per month may be positive. For systems collecting fewer than 40 samples/month, no more than 1 sample per month may be positive.

- guidance

- Large discrepancies between Lifetime and Longer-term HA values may occur because of the Agency's conservative policies, especially with regard to carcinogenicity, relative source contribution, and less than lifetime exposure chronic toxicity testing. These factors can result in a cumulative UF (uncertainty factor) of up to 5 to 5000 when calculating a Lifetime HA.

The scheme for categorizing chemicals according to their carcinogenic potential is as follows:

Group A: Human carcinogen

Sufficient evidence in epidemiologic studies to support causal association between exposure and cancer

Group B: Probable human carcinogen

Limited evidence in epidemiologic studies (Group B1) and/or sufficient evidence from animal studies (Group B2)

Group C: Possible human carcinogen

Limited evidence from animal studies and inadequate or no data in humans

Group D: Not classifiable

Inadequate or no human and animal evidence of carcinogenicity

Group E: No evidence of carcinogenicity for humans

No evidence of carcinogenicity in at least two adequate animal tests in different species or in adequate epidemiologic and animal studies

Drinking Water Health Advisories (HAs) are defined as follows:

One-day HA

The concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects for up to 5 consecutive days of exposure with a margin of safety.

Ten-day HA

The concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects up to 14 consecutive days of exposure with a margin of safety.

Long-term HA

The concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects up to approximately 7 years (10% of an individual's lifetime) of exposure, with a margin of safety.

\*EPA is in the process of revising the Cancer Guidelines.\*

lifetime = Δ

The concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects over a lifetime of exposure, with a margin of safety

# Drinking Water Standards and Health Advisories

May 1995

Page 1

Chemicals	Drinking Water Standards			Health Advisories	Health Advisories					Cancer Group				
	MCL	MCLG	REL		10-16 Child			70-kg Adult						
					Decadal (mg/L)	Interim (mg/L)	Long-term (mg/L)	Long-term (mg/L)	REL (mg/L)		DWEL (mg/L)	L. Meds (mg/L)	mg/L at 10 Cancer Risk	
ORGANICS-														
Acenaphthene	-	-	-	-	-	-	-	-	0.08	-	-	-	-	
Acetofluorene	T	0.007	0.007	F	2	2	0.1	0.4	0.013	0.4	-	-	0.1	B2
Acrylonitrile	F	zero	TT	F	15	0.3	0.02	0.07	0.002	0.007	-	-	0.001	B2
Acrylonitrile	T	zero	TT	D	-	-	-	-	-	-	-	-	0.006	B1
Adipate (diethylhexyl)	F	0.4	0.4	-	20	20	20	60	0.8	20	0.4	-	3	C
Alachlor	F	zero	0.002	F	0.1	0.1	-	-	0.01	0.4	-	-	0.04	B2
Alkylar-	D	0.007	0.007	D	-	-	-	-	0.001	0.035	0.007	-	-	D
Alkylar sulfonate**	D	0.007	0.007	D	-	-	-	-	0.001	0.035	0.007	-	-	D
Alkylar sulfonate**	D	0.007	0.007	D	-	-	-	-	0.001	0.035	0.007	-	-	D
Alkyne	-	-	-	D	0.0003	0.0003	0.0003	0.0003	0.00003	0.001	-	-	0.0002	B2
Amelxin	-	-	-	F	8	8	8.8	3	0.008	0.3	0.001	-	-	D
Ammonium sulfamate	-	-	-	F	20	20	20	60	0.28	8	2	-	-	D
Anthracene (PAH)***	-	-	-	-	-	-	-	-	0.3	-	-	-	-	D
Atrazine	F	0.003	0.003	F	0.1	0.1	0.05	0.2	0.035	0.2	0.003	-	-	C
Baygon	-	-	-	F	0.04	0.04	0.04	0.1	0.004	0.1	0.003	-	-	C
Benzazul	T	0.02	-	F	0.2	0.2	0.2	0.8	0.0025	0.08	0.02	-	-	D
Benz(a)anthracene (PAH)	-	-	-	-	-	-	-	-	-	-	-	-	-	B2
Benzene	F	zero	0.005	F	0.2	0.2	-	-	-	-	-	-	0.1	A
Benzo(a)pyrene (PAH)	F	zero	0.002	-	-	-	-	-	-	-	-	-	0.0002	B2
Benzo(b)fluoranthene (PAH)	-	-	-	-	-	-	-	-	-	-	-	-	0.0002	B2
Benzo(g,h,i)perylene (PAH)	-	-	-	-	-	-	-	-	-	-	-	-	-	D
Benzo(k)fluoranthene (PAH)	-	-	-	-	-	-	-	-	-	-	-	-	0.0002	B2
bis 2 Chloroisopropyl ether	-	-	-	F	4	4	4	13	0.04	1	0.3	-	-	D
Bromal	L	-	-	F	8	8	8	8	0.18	8	0.01	-	-	C
Bromobenzene	L	-	-	D	-	-	-	-	-	-	-	-	-	-

\* Under review

\*\*NOTE The HIA value or the MCL G/MCL value for any two or more of these three chemicals should remain at 0.007 mg/L because of similar mode of action

\*\*\*PAH - Polycyclic aromatic hydrocarbon

NOTE Anthracene and Benzo(g,h,i)perylene - not proposed in Phase V

NOTE Changes from the last version are noted in Italic and Bold Face print

**May 1995**

[illegible]

• **CURRENT MCL** "A HIA will not be developed due to insufficient data, a "Database Deficiency Report" has been published

\* 1994 Proposed rule for Disinfectants and Disinfection By-products: Total for all THMs combined cannot exceed the 0.08 level

\*\*Total for all halogenated acids cannot exceed 0.05 level      \*\*\*PAE = phthalate acid ester

# Drinking Water Standards and Health Advisories

May 1995

Page 1

Chemicals	Standards			Status HA	Health Advisories						Cancer Group			
	MCLG (mg/L)	MCLG (mg/L)	MCL (mg/L)		16-kg Child			70-kg Adult						
					One-day (mg/L)	Ten-day (mg/L)	Longer- term (mg/L)	Longer- term (mg/L)	RfD (mg/kg/day)	DWEL (mg/L)		1 Lifetime (mg/L)	mg/L at 40 <sup>1</sup> Cancer Risk	
Cyanogen chloride	L	-	-	-	-	-	-	-	-	-	-	-	-	
Cymene p-	-	-	-	Q	-	-	-	-	-	-	-	-	-	
2,4-D	F	0.07	0.07	F	1	0.3	0.1	0.4	0.01	0.4	0.07	-	-	D
DCPA (Dachal)	L	1	1	F	80	80	8	20	0.5	20	4	-	-	D
Dalapon	F	0.2	0.2	F	3	3	0.3	0.9	0.026	0.9	0.2	-	-	D
D(2-ethylhexyl)adipate	F	0.4	0.4	-	20	20	20	60	0.8	20	0.4	3	-	C
Diazinon	-	-	-	F	0.02	0.02	0.005	0.02	0.00009	0.003	0.0006	-	-	E
Dibromacetonitrile	L	-	-	D	2	2	2	8	0.02	0.8	0.02	-	-	C
Dibromochloropropane (DBCP)	F	zero	0.0002	F	0.2	0.05	-	-	-	-	-	0.003	-	B2
Dibromonitroethane	L	-	-	-	-	-	-	-	-	-	-	-	-	D
Dibutyl phthalate (PAE)	-	-	-	-	-	-	-	-	0.1	4	-	-	-	D
Dibutyltin	L	-	-	E	0.3	0.3	0.3	1	0.03	1	0.2	-	-	D
Dichloroacetaldehyde	L	-	-	D	-	-	-	-	-	-	-	-	-	
Dichloroacetic acid	F	-	-	D	1	-	-	4	0.004	0.1	-	-	-	B2
Dichloroacetonitrile	L	-	-	D	1	1	0.8	3	0.008	0.3	0.0002	-	-	C
Dichlorobenzene o-	F	0.8	0.8	F	8	8	8	30	0.09	3	0.8	-	-	D
Dichlorobenzene m-	F	0.8	0.8	F	8	8	8	30	0.09	3	0.8	-	-	D
Dichlorobenzene p-	F	0.075	0.075	F	10	10	10	40	0.11	4	0.075	-	-	D
Dichlorodifluoromethane	L	-	-	F	40	40	8	30	0.2	5	1	-	-	D
Dichloroethane (1,1-)	L	-	-	D	2	2	2	2	-	-	-	-	-	
Dichloroethane (1,2-)	F	zero	0.005	F	0.7	0.7	0.7	2.6	-	-	-	0.04	-	B2
Dichloroethylene (1,1-)	F	0.0002	0.0002	F	2	2	2	4	0.008	0.4	0.007	-	-	C
Dichloroethylene (cis-1,2-)	F	0.07	0.07	F	4	3	3	11	0.01	0.4	0.07	-	-	D
Dichloroethylene (trans-1,2-)	F	0.1	0.1	F	20	2	2	4	0.02	0.6	0.1	-	-	D
Dichloromethane	F	zero	0.005	F	10	2	-	-	0.08	2	-	0.5	-	B2
Dichlorophenol (2,4-)	L	1	1	Q	0.08	0.08	0.08	0.1	0.003	0.1	0.02	-	-	D
Dichloropropane (1,1-)	-	-	-	D	-	-	-	-	-	-	-	-	-	
Dichloropropane (1,2-)	F	zero	0.005	F	-	0.02	-	-	-	-	-	0.04	-	B2
Dichloropropane (1,3-)	L	-	-	D	-	-	-	-	-	-	-	-	-	

\* The values for m-dichlorobenzene are based on data for o-dichlorobenzene.

\*\* A quantitative risk estimate has not been determined.

\*\*\* Total for all haloacetic acids cannot exceed 0.08 level

**May 1998**

[illegible]

\* An IIA will not be developed due to insufficient data; a "Database Deficiency Report" has been published

.. to technical points

# Drinking Water Standards and Health Advisories

May 1995

Page 5

Chemicals	Standards			Health	Health Advisories					Cancer Group		
	MCL	MCLG	REL		10-kg Child			70-kg Adult				
					Contaminant (mg/L)	Contaminant (mg/L)	Contaminant (mg/L)	Long-term (mg/d)	Short-term (mg/d)		DMEL (mg/d)	Lifetime (mg/d)
Fluorobenzene	-	-	-	-	2	2	2	0	0.013	0.4	0.09	D
Fluorene (PAH)	-	-	-	-	-	-	-	-	0.04	-	-	D
Fluorobenzene	-	-	-	-	7	7	7	10	0.3	10	2	D
Fog Oil	-	-	-	D	-	-	-	-	-	-	-	-
Fopos	-	-	-	-	0.02	0.02	0.02	0.07	0.002	0.07	0.01	D
Formaldehyde	D	-	-	D	10	5	5	20	0.15	5	1	B1**
Gasoline, unleaded (benzene)	-	-	-	D	-	-	-	-	-	-	0.015	-
Glyphosate	F	0.7	0.7	F	20	20	1	1	0.1	4	0.7	E
Naphthalene	F	0.0001	0.0001	F	0.01	0.01	0.005	0.005	0.0005	0.02	-	B2
Heptachlor epoxide	F	0.0002	0.0002	F	0.01	-	0.0001	0.0001	1E-6	0.0004	-	B2
Heptachlorobenzene	F	0.0001	0.0001	F	0.01	0.01	0.05	0.2	0.0005	0.03	-	B2
Hexachlorobutadiene	T	0.001	-	F	0.3	0.3	0.1	0.4	0.002	0.07	0.001	C
Hexachlorocyclopentadiene	F	0.001	0.001	-	-	-	-	-	0.007	0.2	-	D
Hexachloroethane	L	-	-	F	5	5	0.1	0.5	0.001	0.04	0.001	C
Hexane (n-)	-	-	-	F	10	4	4	10	-	-	-	D
Hexazone	-	-	-	F	3	3	3	0	0.033	1	0.2	D
HMX	-	-	-	F	2	2	2	20	0.05	2	0.4	D
Indeno(1,2,3-c,d)pyrene (PAH)	-	-	-	D	-	-	-	-	-	-	-	B2
Isoparalene	L	-	-	F	15	15	15	15	0.2	7	0.1	C
Isopropyl methylphosphonate	-	-	-	D	30	30	30	100	0.1	40	0.7	D
Isopropylbenzene	-	-	-	D	-	-	-	-	-	-	-	-
Iralone	F	0.0002	0.0002	F	1	1	0.03	0.1	0.0003	0.01	0.0002	C
Methoxy	-	-	-	F	0.2	0.2	0.2	0.2	0.02	0.0	0.2	D
Methoxyhydrazide	-	-	-	F	10	10	5	20	0.5	20	4	D
MCPA	-	-	-	F	0.1	0.1	0.1	0.4	0.0016	0.05	0.01	E
Methoxymyl	L	-	-	F	0.3	0.3	0.3	0.3	0.025	0.9	0.2	D
Methoxychlor	F	0.04	0.04	F	0.05	0.05	0.05	0.2	0.005	0.2	0.04	D
Methyl ethyl ketone	-	-	-	F	-	-	-	-	-	-	-	-
Methyl parathion	-	-	-	F	0.3	0.3	0.03	0.1	0.0025	0.009	0.002	D

\* Under review.

\*\* Carcinogenicity based on inhalation exposure.

Chemical	Exposure	Exposure	Exposure	Exposure	Exposure	Exposure	Exposure	Exposure	Exposure	Exposure	Exposure
Chemical	Exposure	Exposure	Exposure	Exposure	Exposure	Exposure	Exposure	Exposure	Exposure	Exposure	Exposure
Methyl tert butyl ether	L	-	-	D	20	20	3	12	0.03	10	0.02-0.3*
Methachlor	L	-	-	F	1	1	1	1	0.01	30	0.07
Methidathion	L	-	-	F	0	0	0.3	0.0	0.013**	0.0	0.1
Methoxyacetic acid	L	-	-	F	1	1	1	1	0.01	1	0.1
Methoxybenzene	F	0.1	0.1	F	2	2	2	7	0.02	0.7	0.1
Naphthalene	-	-	-	F	0.0	0.0	0.4	1	0.004	0.1	0.02
Nitrocellulose (smoke)	-	-	-	F	1	1	1	1	0.01	1	0.1
Nitroguanine	-	-	-	F	10	10	10	10	0.01	4	0.7
Nitrophenol p-	-	-	-	F	0.0	0.0	0.0	3	0.000	0.3	0.00
Octamyl (Vylate)	F	0.2	0.2	F	0.1	0.1	0.1	0.0	0.004	0.0	0.2
Paracetamol	-	-	-	F	0.1	0.1	0.05	0.2	0.0045	0.2	0.03
Permethrin	-	-	-	F	1	1	1	1	0.01	1	0.03
Permethrinophenol	F	zero	0.001	F	1	0.3	0.3	1	0.03	1	0.03
Phenanthrene (PAH)	-	-	-	-	-	-	-	-	-	-	-
Phenol	-	-	-	D	0	0	0	20	0.0	20	4
Picloram	F	0.0	0.0	F	20	20	0.7	2	0.07	2	0.0
Polychlorinated biphenyls (PCBs)	F	zero	0.0005	P	-	-	-	-	-	-	0.0005
Propazine	L	-	-	F	0.2	0.2	0.2	0.0	0.010	0.0	0.1*
Propazine	-	-	-	F	0.0	0.0	0.0	3	0.075	3	0.05
Propazine	-	-	-	F	0.0	0.0	0.1	0.0	0.015	0.0	0.00
Propazine	-	-	-	F	1	1	0.5	2	0.02	0.7	0.01
Propazine	-	-	-	F	0	0	0	20	0.02	0.0	0.1
Propazine	-	-	-	D	-	-	-	-	-	-	-
Pyrene (PAH)	-	-	-	-	-	-	-	-	0.03	-	-
RIX	-	-	-	F	0.1	0.1	0.1	0.4	0.003	0.1	0.002
Sinazine	F	0.004	0.004	F	0.07	0.07	0.07	0.07	0.005	0.2	0.004
Sinazine	F	0.1	0.1	F	20	2	2	7	0.2	7	0.1
2,4,5-T	L	-	-	F	0.0	0.0	0.0	1	0.01	0.35	0.07
2,3,7,8-TCDD (Dioxin)	F	zero	3E-08	F	1E-08	1E-07	1E-08	4E-08	1E-08	4E-08	2E-08

\* Under review NOTE: Phenanthrene — not proposed

\*\* The RfD for methidathion was revised Dec. 1994 to 0.013 mg/kg/day. Based on this revised RfD the Lifetime HIA would be 0.1 mg/l assuming a 20% relative source contribution to water. This information has not been incorporated in the Health Advisory document.

\*\*\* Tentative.

\* If the cancer classification C is accepted, the Lifetime HIA is 0.20; other wise it is 0.200 mg/L.

# Drinking Water Standards and Health Advisories

May 1995

Page 7

Chemicals	Database			Toxicity	Health Advisories							Cancer Group	
	MCL	MCLG	PDE		10-yr Child			70-yr Adult					
					One-day (mg/L)	10-day (mg/L)	Long-term (mg/L)	Long-term (mg/d)	MDL (mg/L)	DAWG (mg/d)	Lifetime (mg/d)		mg/L at 10 <sup>1</sup> Cancer Risk
Tebuthiuron	-	-	-	F	3	3	0.7	2	0.07	2	0.5	-	D
Terbacil	-	-	-	F	0.3	0.3	0.3	0.9	0.013	0.4	0.00	-	E
Terbufos	-	-	-	F	0.005	0.005	0.001	0.005	0.00013	0.005	0.0000	-	D
Tetrachloroethane (1,1,1,2-)	L	-	-	F	2	2	0.05	3	0.03	1	0.07	0.1	Q
Tetrachloroethane (1,1,2,2-)	L	-	-	D	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	L	-	0.002	F	2	2	0.1	5	0.01	0.5	-	0.07	-
Tetrachloromethane	-	-	-	-	-	-	-	-	-	-	-	-	-
Thiame	F	1	1	F	20	2	2	7	0.2	7	1	-	D
Toxaphene	F	zero	0.003	F	-	-	-	-	0.1	-	-	0.001	B2
2,4,6-TP	F	0.002	0.001	D	0.2	0.2	0.02	0.3	0.0025	0.3	0.06	-	D
1,1,2 Trichloro-1,2,2-trichloroethane	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroacetic acid	F	0.2	0.002	D	4	4	4	13	0.1	4.0	0.3	-	10
Trichloroacetonitrile	L	-	-	D	0.05	0.05	-	-	-	-	-	-	-
Trichlorobenzene (1,2,4-)	F	0.02	0.02	F	0.1	0.1	0.1	0.5	0.001	0.04	0.07	-	D
Trichlorobenzene (1,3,5-)	-	-	-	F	0.6	0.6	0.6	2	0.006	0.2	0.04	-	D
Trichloroethane (1,1,1-)	F	0.2	0.2	F	100	40	40	100	0.005	1	0.2	-	D
Trichloroethane (1,1,2-)	F	0.003	0.005	F	0.6	0.4	0.4	1	0.004	0.1	0.001	-	C
Trichloroethanol (2,2,2-)	L	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	F	zero	0.005	F	-	-	-	-	-	0.3	-	0.3	B2
Trichlorophenol (2,4,6-)	L	-	-	D	-	-	-	-	-	-	-	0.3	B2
Trichloropropane (1,1,1-)	-	-	-	D	-	-	-	-	-	-	-	-	-
Trichloropropane (1,2,3-)	L	-	-	F	0.6	0.6	0.6	2	0.006	0.2	0.04	0.6	B2
Trihaloethane	L	-	-	F	0.06	0.06	0.06	0.3	0.0075	0.3	0.005	0.5	C
Trimethylbenzene (1,2,4-)	-	-	-	D	-	-	-	-	-	-	-	-	-
Trimethylbenzene (1,3,5-)	-	-	-	D	-	-	-	-	-	-	-	-	-
Triisopropylalcohol	-	-	-	F	0.005	0.005	0.005	0.005	-	-	0.005	-	-
Triisobutylene	-	-	-	F	0.02	0.02	0.02	0.02	0.0005	0.02	0.002	0.1	C
Vinyl chloride	F	zero	0.002	F	3	3	0.01	0.05	-	-	-	0.0015	A
Xylenes	F	10	10	F	40	40	40	100	2	60	10	-	D

\* Under review

\*\* A TIA will not be developed due to insufficient data, a "Database Deficiency Report" has been published.

\*\* Total for all trichloroacetic acids cannot exceed 0.06 mg/L level.



# Drinking Water Standards and Health Advisories

May 1995

Page 3

Chemical	MCL			Health Advisories					Comments
	1991	1991	1991	1991	1991	1991	1991	1991	
Nitrate (as N)	F	10	10	-	-	0.16*	-	-	-
Nitrate + Nitrite (both as N)	F	10	10	-	-	0.005	-	-	-
Selenium	F	0.05	0.05	-	-	0.005	-	-	-
Silver	-	-	-	0.2	0.2	0.2	0.1	-	D
Sodium	-	-	-	-	-	-	20**	-	-
Sprinkling	-	-	-	25	25	25	17	-	D
Sulfate	P	500	500	-	-	0.0007	0.0007	0.0004	-
Thallium	-	-	-	-	-	-	-	-	-
Vanadium	-	-	-	-	-	-	-	-	-
White phosphorus	-	-	-	-	-	-	-	-	-
Zinc	-	-	-	10	10	10	2	-	D
Zinc chloride (measured as zinc)	-	-	-	10	10	10	2	-	D
<b>RADIONUCLIDES</b>									
Beta particle and photon activity (naturally occurring man-made radionuclides)	P	zero	15 pCi/L	-	-	-	-	4 mrem/yr 15 pCi/L	A
Gross alpha particle activity	P	zero	15 pCi/L	-	-	-	-	20 pCi/L	A
Radium 226	P	zero	20 pCi/L	-	-	-	-	20 pCi/L	A
Radium 228	P	zero	20 pCi/L	-	-	-	-	20 pCi/L	A
Radium	P	zero	300 pCi/L	-	-	-	-	150 pCi/L	A
Thoron	P	zero	20 pCi/L	-	-	-	-	-	A

\* review \*\* Guidance

as MCL and Primary Drinking Water Rule for Radionuclides

# Secondary Maximum Contaminant Levels

May 1995

Page 10

Aluminum	F	0.05 to 0.2
Chloride	F	250
Color	F	15 color units
Copper	F	1.0
Corrosivity	F	non-corrosive
Fluoride	F	2.0
Foaming agents	F	0.5
Iron	F	0.3
Manganese	F	0.05
Odor	F	3 threshold odor numbers
pH	F	6.5 — 8.5
Silver	F	0.1
Sulfate	F	250
Total dissolved solids (TDS)	F	500
Zinc	F	5

Status Codes: P — proposed, F — final

\* Under review

## Microbiology

May 1995

Page 11

	Status	MCLG	MCL
Cryptosporidium	L	-	-
Giardia lamblia	F	zero	TT
Legionella	F	zero	TT
Standard Plate Count	F	NA	TT
Total Coliforms	F	zero	..
Turbidity	PS	NA	PS
Viruses	F	zero	TT

Key: PS, TT, F, defined as previously stated.

Final for systems using surface water; also being considered for regulation under groundwater disinfection rule.

## Appendix D

### Well Network

TABLE 1  
SUMMARY OF WELL NETWORK

<i>Monitoring Well/Piezometer No.</i>	<i>Purpose.</i>	<i>Screen Interval (1)</i>	<i>Comments</i>
MW-1a	Upgradient	10 - 15'	• formerly MW-1
MW-1b	Upgradient	85 - 95'	
MW-2	Piezometer	10 - 15'	
MW-3a	POC	10 - 15'	• formerly MW-3 • vicinity of RI Well W-6
MW-3b	POC	85 - 95'	• vicinity of RI Well W-6
MW-4a	POC	10 - 15' (2)	• downgradient of RI Well W-4 • vicinity of VP-3
MW-4b	POC	85 - 95'	• see above
MW-5a	POC	15 - 20' (2)	• vicinity of VP-2 • vicinity of RI well W-5 • downgradient of RI wells W-3a and W-3b
MW-5b	POC	23 - 28'	• see above
MW-5c	POC	55 - 60'	• see above
MW-5d	POC	85 - 95'	• see above
PZ-1	Piezometer	10 - 15'	
PZ-2	Piezometer	10 - 15'	
PZ-3	Piezometer	10 - 15'	
PZ-4	Piezometer	10 - 15'	

**Note:**

- 1) Below ground surface.
- 2) These intervals will be adjusted if necessary based on the soil conditions encountered

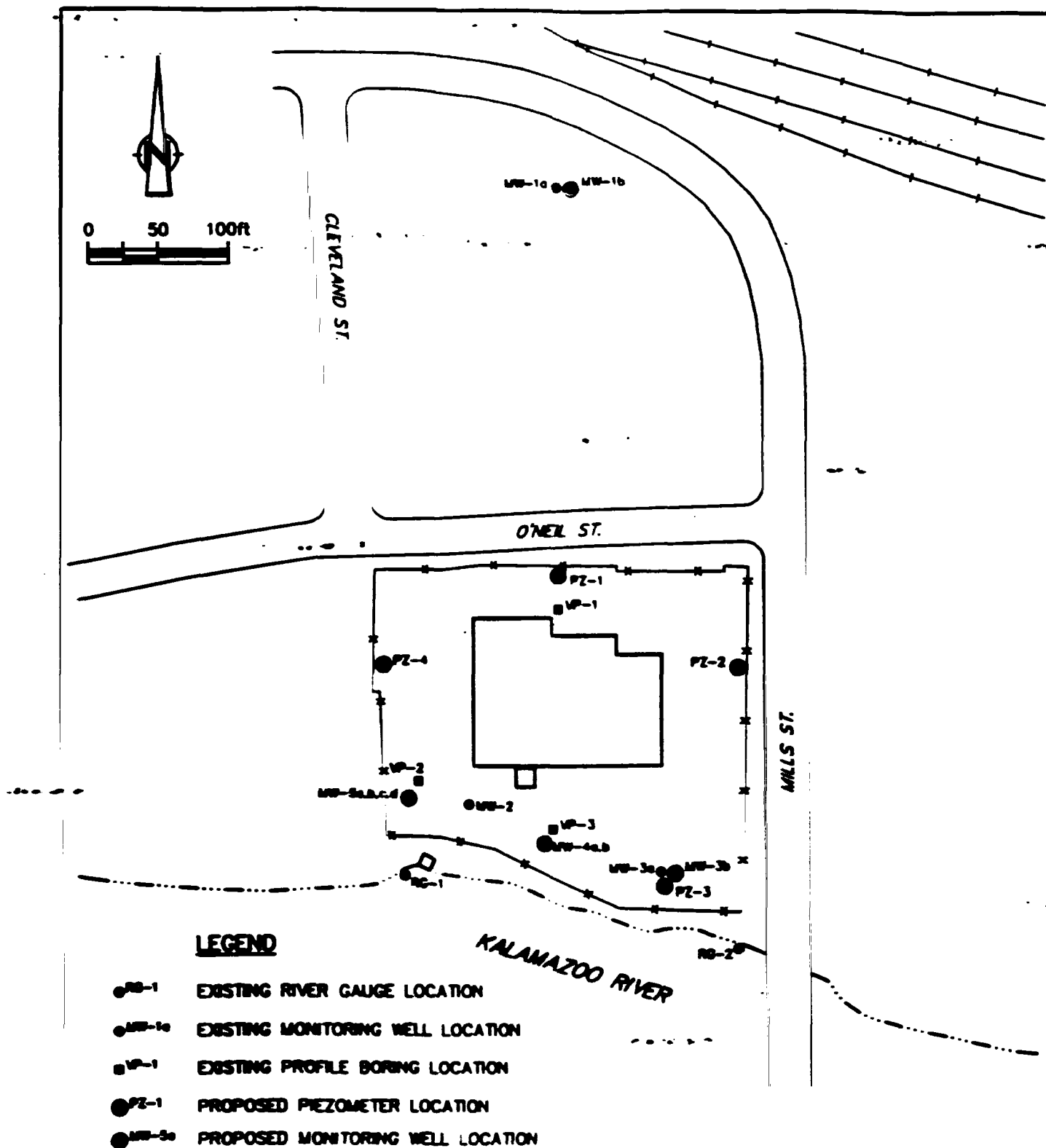


figure 1  
**PROPOSED MONITORING WELL NETWORK**  
**AUTO ION SITE**  
*Kalamazoo, Michigan*

**Appendix E**  
**Chemicals of Concern**

**CHEMICALS OF CONCERN**  
**AUTO ION SUPERFUND SITE (OPERABLE UNIT 2)**

**Inorganics**

**Organics**

**Arsenic**

**bis(2-Ethylhexyl)phthalate**

**Nickel**

**Trichloroethylene**

**Barium**

**1,2-Dichloroethane**

**Copper**

**Vinyl Chloride**

**Lead**

**Cadmium**

**Mercury**

**Cyanide**

**Chromium III**

**Chromium VI**

**Silver**

**Note:** Additional compounds may be added to this list following the establishment of ACLs for groundwater.

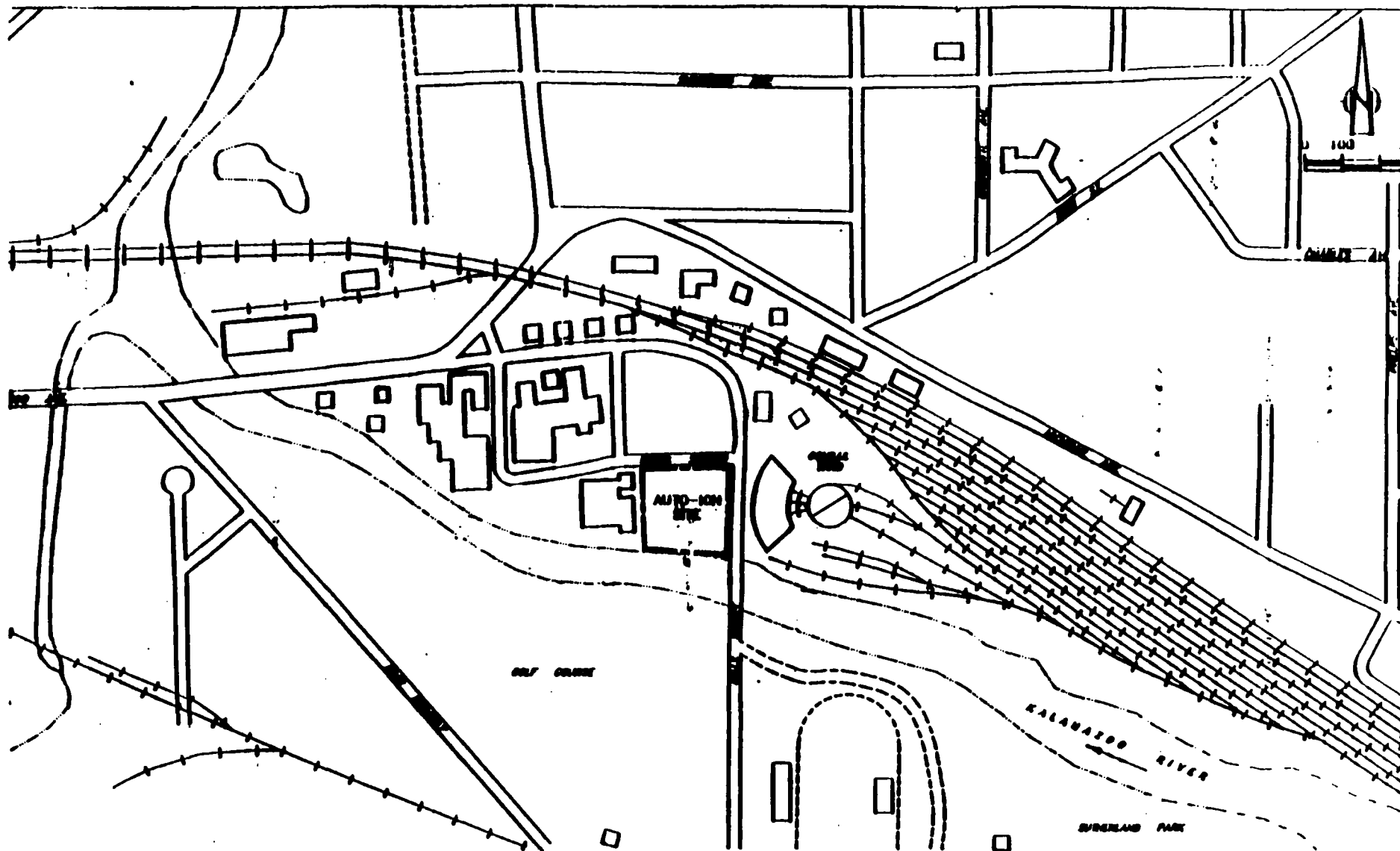
**APPENDIX C**  
**DESCRIPTION OF SITE AND MAP**

L

**AUTO ION PROPERTY DESCRIPTION**

**74 Mills Street, Kalamazoo, Michigan**

**Lots twenty-three (23), twenty-four (24), twenty-five (25), twenty-six (26), twenty-seven (27) and twenty-eight (28) of O'Neill's Plat on Union Addition, City of Kalamazoo, Kalamazoo County, Michigan.**



**LEGEND**

- +—+—+— RAILWAY
- - - - - SITE BOUNDARY

**SITE AREA PLAN  
AUTO-ION SITE  
Kalamazoo, Michigan**

**APPENDIX D**  
**LIST OF SETTLING DEFENDANTS**

SIGNATORIES TO THE AUTO ION RD/RA CONSENT DECREE  
FOR SECOND OPERABLE UNIT

- Amerace Corporation
- American Tubing Company (Plymouth Tube Company)
- ✓ Anaconda Wire & Cable Co. *Ericsson*
- Anderson Safeway Corp
- Anodized Specialists, Inc.
- Bendix Corporation (Allied Signal, Inc.)
- Brunswick Corporation
- Chrysler Corporation
- City of Battle Creek
- City of Kalamazoo
- Clark Equipment Company (Ingersoll-Rand Company)
- Consumer Power Company
- ✓ Contractors United, Inc.
- Corning Glass Works (Corning, Inc.)
- Cosco Household Products
- Dana Corporation (Weatherhead Division)
- Du-Wel Products, Inc.
- Essex Wire (United Technologies Corporation)
- Faultless Caster, Inc. (FKI Industries, Inc.)
- Firestone (Bridgestone)
- Garwood Industries (Dover Corporation)
- General Electric Company
- General Motors Company
- Gilbert Plating and Bumper Exchange, Inc.
- Haas Corporation (Lear Plastics)
- Harman Automotive (Jervis; Harvard Industries)
- Hastings Manufacturing Company
- Homelite Division (Textron)
- Howard Plating Industries, Inc.
- Indiana Steel & Wire
- Johnson Controls
- KTS Industries, Inc.
- Kawneer Company
- Kewaunee Scientific Corporation
- ✓ Lawrence Industries
- ✓ Lansing Heat Treating Co. *Padren*
- M&T Chemical, Inc. (Elf Atochem North America, Inc.)
- Magnavox
- Micro Mechanical Finishing (Xtek)

- Monsato Corporation
- Motor Wheel Corporation (Goodyear)
- ✓ Muskegon Piston Ring ... *A.E. Goetze*
- National-Standard Company
- PPG Industries, Inc.
- Pickens Plating Inc.
- Quincy Products, Inc. (Valley Industries, Inc.)
- Rex Chain Belt, Inc. (RHI Holdings, Inc.; Fairchild)
- Rudy Manufacturing (Sunstrand Corporation)
- Sealed Power Corporation (SPX Corporation)
- Shakespeare Company
- Sheller Globe Corporation (United Technologies Automotive Systems, Inc.)
- Stanadyne, Inc. (Stanscrew, Moen, Inc.)
- Stauffer Chemical (Stauffer Management Company, Rhone-Poulenc, Inc.)
- Udylite Corporation (Ethone-OMI, Inc.)
- Union Tank Car Company (The Marmon Group, Inc.)
- V.W. Kaiser Engineering
- ✓ Varity Kelsey-Hayes (H.B. Sherman Manufacturing)
- Vickers Corporation (Unisys Corporation)
- Warsaw Plating Works, Inc.
- Westinghouse Electric Corporation
- Whirlpool Corporation
- Wickes Manufacturing
- Xtek Inc.

Monsato Corporation  
Motor Wheel Corporation (Goodyear)  
Muskegon Piston Ring  
National-Standard Company  
PPG Industries, Inc.  
Pickens Plating Inc.  
Quincy Products, Inc. (Valley Industries, Inc.)  
Rex Chain Belt, Inc. (RHI Holdings, Inc.; Fairchild)  
Rudy Manufacturing (Sunstrand Corporation)  
Sealed Power Corporation (SPX Corporation)  
Shakespeare Company  
Sheller Globe Corporation (United Technologies Automotive Systems, Inc.)  
Stanadyne, Inc. (Stanscrew; Moen, Inc.)  
Stauffer Chemical (Stauffer Management Company; Rhone-Poulenc, Inc.)  
Udylite Corporation (Ethone-OMI, Inc.)  
Union Tank Car Company (The Marmon Group, Inc.)  
V.W. Kaiser Engineering  
Varity Kelsey-Hayes (H.B. Sherman Manufacturing)  
Vickers Corporation (Unisys Corporation)  
Warsaw Plating Works, Inc.  
Westinghouse Electric Corporation  
Whirlpool Corporation  
Wickes Manufacturing  
Xtek Inc.